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<213> Homo sapiens

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Lys Tyr Asp Tyr Leu Pro Thr Thr Val Asn Val Cys Ser Glu Leu 50 55 60

Val Lys Leu Val Phe Cys Val Leu Val Ser Phe Cys Val Ile Lys . 65 70 75

Lys Asp His Gln Ser Arg Asn Leu Lys Tyr Ala Ser Trp Lys Glu 80 85 90

Phe Ser Asp Phe Met Lys Trp Ser Ile Pro Ala Phe Leu Tyr Phe 95 100 105

Leu Asp Asn Leu Ile Val Phe Tyr Val Leu Ser Tyr Leu Gl
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<213> Homo sapiens

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105

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<211> 266

<212> PRT

<213> Homo sapiens

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Val Thr Leu His His Ile Asp Pro Ala Leu Pro Tyr Ile Ser Asp 35 40 45

Thr Gly Thr Val Ala Pro Glu Lys Cys Leu Phe Gly Ala Met Leu 50 55 60

Asn Ile Ala Ala Val Leu Cys Ile Ala Thr Ile Tyr Val Arg Tyr $65 \hspace{1cm} 70 \hspace{1cm} 75$

Lys Gln Val His Ala Leu Ser Pro Glu Glu Asn Val Ile Ile Lys 80 85 90

Leu Asn Lys Ala Gly Leu Val Leu Gly Ile Leu Ser Cys Leu Gly 95 100 105

His Val Ser Gly Ala Val Leu Thr Phe Gly Met Gly Ser Leu Tyr 125 130 135

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His Gly Lys Gln Val Phe Trp Ile Arg Leu Leu Val Ile Trp
Cys Gly Val Ser Ala Leu Ser Met Leu Thr Cys Ser Ser Val Leu
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                                                         180
His Ser Gly Asn Phe Gly Thr Asp Leu Glu Gln Lys Leu His Trp
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Asn Pro Glu Asp Lys Gly Tyr Val Leu His Met Ile Thr Thr Ala
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Ala Glu Trp Ser Met Ser Phe Ser Phe Phe Gly Phe Phe Leu Thr
                                    220
Tyr Ile Arg Asp Phe Gln Lys Ile Ser Leu Arg Val Glu Ala Asn
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<213> Artificial Sequence

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<212> PRT

<213> Homo sapiens

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Leu Gly Ser Thr Glu Glu Ala Gly Gly Arg Ser Leu Trp Phe Pro 35 40 45

Ser Asp Leu Ala Glu Leu Arg Glu Leu Ser Glu Val Leu Arg Glu 50 55 60

Tyr Arg Lys Glu His Gln Ala Tyr Val Phe Leu Leu Phe Cys Gly
65 70 75

Ala Tyr Leu Tyr Lys Gln Gly Phe Ala Ile Pro Gly Ser Ser Phe 80 85 90

Leu Asn Val Leu Ala Gly Ala Leu Phe Gly Pro Trp Leu Gly Leu 95 100 105

Leu Leu Cys Cys Val Leu Thr Ser Val Gly Ala Thr Cys Cys Tyr 110 115 120

Leu Leu Ser Ser Ile Phe Gly Lys Gln Leu Val Val Ser Tyr Phe 125 130 135

Pro Asp Lys Val Ala Leu Leu Gln Arg Lys Val Glu Glu Asn Arg 140 145

Asn Ser Leu Phe Phe Phe Leu Leu Phe Leu Arg Leu Phe Pro Met 155 160 165

Thr Pro Asn Trp Phe Leu Asn Leu Ser Ala Pro Ile Leu Asn Ile 170 175 180

Pro Ile Val Gln Phe Phe Phe Ser Val Leu Ile Gly Leu Ile Pro 185 190 195

Tyr Asn Phe Ile Cys Val Gln Thr Gly Ser Ile Leu Ser Thr Leu 200 205 210

Thr Ser Leu Asp Ala Leu Phe Ser Trp Asp Thr Val Phe Lys Leu 225

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- <211> 347
- <212> PRT
- <213> Homo sapiens

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- Glu Thr Val Asp Leu Val Arg Gln Thr Gly His Gln Cys Gly Met 20 25 30
- Ser Glu Lys Ala Ile Glu Lys Phe Ile Arg Gln Leu Leu Glu Lys 35 40 45
- Asn Glu Pro Gln Arg Pro Pro Pro Gln Tyr Pro Leu Leu Ile Val 50 55 60
- Val Tyr Lys Val Leu Ala Thr Leu Gly Leu Ile Leu Leu Thr Ala
 65 70 75
- Tyr Phe Val Ile Gln Pro Phe Ser Pro Leu Ala Pro Glu Pro Val 80 85 90
- Leu Ser Gly Ala His Thr Trp Arg Ser Leu Ile His His Ile Arg 95 100 105
- Leu Met Ser Leu Pro Ile Ala Lys Lys Tyr Met Ser Glu Asn Lys 110 115 120
- Gly Val Pro Leu His Gly Gly Asp Glu Asp Arg Pro Phe Pro Asp 125 130 135
 - Phe Asp Pro Trp Trp Thr Asn Asp Cys Glu Gln Asn Glu Ser Glu 140 145 150
 - Pro Ile Pro Ala Asn Cys Thr Gly Cys Ala Gln Lys His Leu Lys 155 160 165
 - Val Met Leu Leu Glu Asp Ala Pro Arg Lys Phe Glu Arg Leu His 170 175 180
 - Pro Leu Val Ile Lys Thr Gly Lys Pro Leu Leu Glu Glu Glu Ile 185 190 195
 - Gln His Phe Leu Cys Gln Tyr Pro Glu Ala Thr Glu Gly Phe Ser 200 205 210
 - Glu Gly Phe Phe Ala Lys Trp Trp Arg Cys Phe Pro Glu Arg Trp 215 220 225
 - Phe Pro Phe Pro Tyr Pro Trp Arg Arg Pro Leu Asn Arg Ser Gln 230 235 240
 - Met Leu Arg Glu Leu Phe Pro Val Phe Thr His Leu Pro Phe Pro 255

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Val Val Gly Ser Lys Met His Lys Met Pro 280 Asp Leu Phe Ile Ile 285

Gly Ser Gly Glu Ala Met Leu Gln Leu Ile 295 Pro Pro Phe Gln Cys 300

Arg Arg His Cys Gln Ser Val Ala Met Pro 310 Ile Glu Pro Gly Asp 315

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- <211> 1003
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- Gly Gln Arg Arg Gln Trp Glu Arg Ala Gln Ser Arg Arg Ala Phe 35 40 45
- Gln Glu Leu Val Leu Glu Pro Ala Gln Arg Arg Ala Arg Leu Glu
 50 55 60
- Gly Leu Arg Tyr Thr Ala Val Leu Lys Gln Gln Ala Thr Gln His
 65 70 75
- Ser Met Ala Leu Leu His Trp Gly Ala Leu Trp Arg Gln Leu Ala 80 85 90
- Ser Pro Cys Gly Ala Trp Ala Leu Arg Asp Thr Pro Ile Pro Arg 95 100 105
- Trp Lys Leu Ser Ser Ala Glu Thr Tyr Ser Arg Met Arg Leu Lys 110 115 120
- Leu Val Pro Asn His His Phe Asp Pro His Leu Glu Ala Ser Ala 125 130 135
- Leu Arg Asp Asn Leu Gly Glu Val Pro Leu Thr Pro Thr Glu Glu 140 145
- Ala Ser Leu Pro Leu Ala Val Thr Lys Glu Ala Lys Val Ser Thr 155 160 165
- Pro Pro Glu Leu Gln Glu Asp Gln Leu Gly Glu Asp Glu Leu 170 175 180
- Ala Glu Leu Glu Thr Pro Met Glu Ala Ala Glu Leu Asp Glu Gln 185 190 195
- Arg Glu Lys Leu Val Leu Ser Ala Glu Cys Gln Leu Val Thr Val 200 205 210
- Val Ala Val Val Pro Gly Leu Leu Glu Val Thr Thr Gln Asn Val 215 220 225
- Tyr Phe Tyr Asp Gly Ser Thr Glu Arg Val Glu Thr Glu Glu Gly 230 235 240
- Ile Gly Tyr Asp Phe Arg Arg Pro Leu Ala Gln Leu Arg Glu Val 245 250 255
- His Leu Arg Arg Phe Asn Leu Arg Arg Ser Ala Leu Glu Leu Phe 260 265 270

Phe Ile Asp Gln Ala Asn Tyr Phe Leu Asn Phe Pro Cys Lys Val Gly Thr Thr Pro Val Ser Ser Pro Ser Gln Thr Pro Arg Pro Gln Pro Gly Pro Ile Pro Pro His Thr Gln Val Arg Asn Gln Val Tyr Ser Trp Leu Leu Arg Leu Arg Pro Pro Ser Gln Gly Tyr Leu Ser 325 Ser Arg Ser Pro Gln Glu Met Leu Arg Ala Ser Gly Leu Thr Gln 340 335 Lys Trp Val Gln Arg Glu Ile Ser Asn Phe Glu Tyr Leu Met Gln Leu Asn Thr Ile Ala Gly Arg Thr Tyr Asn Asp Leu Ser Gln Tyr Pro Val Phe Pro Trp Val Leu Gln Asp Tyr Val Ser Pro Thr Leu 380 385 Asp Leu Ser Asn Pro Ala Val Phe Arg Asp Leu Ser Lys Pro Ile Gly Val Val Asn Pro Lys His Ala Gln Leu Val Arg Glu Lys Tyr Glu Ser Phe Glu Asp Pro Ala Gly Thr Ile Asp Lys Phe His Tyr 425 430 Gly Thr His Tyr Ser Asn Ala Ala Gly Val Met His Tyr Leu Ile Arg Val Glu Pro Phe Thr Ser Leu His Val Gln Leu Gln Ser Gly Arg Phe Asp Cys Ser Asp Arg Gln Phe His Ser Val Ala Ala Ala 470 475 Trp Gln Ala Arg Leu Glu Ser Pro Ala Asp Val Lys Glu Leu Ile Pro Glu Phe Phe Tyr Phe Pro Asp Phe Leu Glu Asn Gln Asn Gly Phe Asp Leu Gly Cys Leu Gln Leu Thr Asn Glu Lys Val Gly Asp 515 520 Val Val Leu Pro Pro Trp Ala Ser Ser Pro Glu Asp Phe Ile Gln 535 Gln His Arg Gln Ala Leu Glu Ser Glu Tyr Val Ser Ala His Leu 555 His Glu Trp Ile Asp Leu Ile Phe Gly Tyr Lys Gln Arg Gly Pro 560 Ala Ala Glu Glu Ala Leu Asn Val Phe Tyr Tyr Cys Thr Tyr Glu 575 580

Gly Ala Val Asp Leu Asp His Val Thr Asp Glu Arg Glu Arg Lys Ala Leu Glu Gly Ile Ile Ser Asn Phe Gly Gln Thr Pro Cys Gln Leu Leu Lys Glu Pro His Pro Thr Arg Leu Ser Ala Glu Glu Ala 625 Ala His Arg Leu Ala Arg Leu Asp Thr Asn Ser Pro Ser Ile Phe Gln His Leu Asp Glu Leu Lys Ala Phe Phe Ala Glu Val Thr Val 655 650 Ser Ala Ser Gly Leu Leu Gly Thr His Ser Trp Leu Pro Tyr Asp Arg Asn Ile Ser Asn Tyr Phe Ser Phe Ser Lys Asp Pro Thr Met 690 685 Gly Ser His Lys Thr Gln Arg Leu Leu Ser Gly Pro Trp Val Pro 695 Gly Ser Gly Val Ser Gly Gln Ala Leu Ala Val Ala Pro Asp Gly Lys Leu Leu Phe Ser Gly Gly His Trp Asp Gly Ser Leu Arg Val 730 Thr Ala Leu Pro Arg Gly Lys Leu Leu Ser Gln Leu Ser Cys His Leu Asp Val Val Thr Cys Leu Ala Leu Asp Thr Cys Gly Ile Tyr 755 Leu Ile Ser Gly Ser Arg Asp Thr Thr Cys Met Val Trp Arg Leu Leu His Gln Gly Gly Leu Ser Val Gly Leu Ala Pro Lys Pro Val Gln Val Leu Tyr Gly His Gly Ala Ala Val Ser Cys Val Ala Ile Ser Thr Glu Leu Asp Met Ala Val Ser Gly Ser Glu Asp Gly Thr 820 Val Ile Ile His Thr Val Arg Arg Gly Gln Phe Val Ala Ala Leu 835 830 Arg Pro Leu Gly Ala Thr Phe Pro Gly Pro Ile Phe His Leu Ala Leu Gly Ser Glu Gly Gln Ile Val Val Gln Ser Ser Ala Trp Glu 870 865 860 Arg Pro Gly Ala Gln Val Thr Tyr Ser Leu His Leu Tyr Ser Val 875 Asn Gly Lys Leu Arg Ala Ser Leu Pro Leu Ala Glu Gln Pro Thr 895

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<213> Artificial Sequence

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<210> 35

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Ile Gln Arg Ser Val Phe Asn Leu Gln Ile Tyr Gly Val Leu Gly
60
Leu Phe Trp Thr Leu Asn Trp Val Leu Ala Leu Gly Gln Cys Val
75
Leu Ala Gly Ala Phe Ala Ser Phe Tyr Trp Ala Phe His Lys Pro
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Gln Asp Ile Pro Thr Phe Pro Leu Ile Ser Ala Phe His Lys Pro
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Thr Leu Val Gln Ile Ala Arg Val Ile Leu Glu Tyr Ile Asp His
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<213> Homo sapiens

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Leu Asn Arg Asn Ala Tyr Ile Met Ile Ala Ile Tyr Gly Lys Asn
Phe Cys Val Ser Ala Lys Asn Ala Phe Met Leu Leu Met Arg Asn
                                     190
Ile Val Arg Val Val Leu Asp Lys Val Thr Asp Leu Leu Leu
                200
Phe Phe Gly Lys Leu Leu Val Val Gly Val Gly Val Leu Ser
Phe Phe Phe Ser Gly Arg Ile Pro Gly Leu Gly Lys Asp Phe
Lys Ser Pro His Leu Asn Tyr Tyr Trp Leu Pro Ile Met Thr Ser
                                     250
Ile Leu Gly Ala Tyr Val Ile Ala Ser Gly Phe Phe Ser Val Phe
Gly Met Cys Val Asp Thr Leu Phe Leu Cys Phe Leu Glu Asp Leu
                                                         285
Glu Arg Asn Asn Gly Ser Leu Asp Arg Pro Tyr Tyr Met Ser Lys
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                                     295
Ser Leu Leu Lys Ile Leu Gly Lys Lys Asn Glu Ala Pro Pro Asp
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Asn Lys Lys Arg Lys Lys
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- <212> PRT <213> Homo sapiens <400> 41 Met Phe Val Ser Asp Phe Arg Lys Glu Phe Tyr Glu Val Val Gln Ser Gln Arg Val Leu Leu Phe Val Ala Ser Asp Val Asp Ala Leu Cys Ala Cys Lys Ile Leu Gln Ala Leu Phe Gln Cys Asp His Val 35 Gln Tyr Thr Leu Val Pro Val Ser Gly Trp Gln Glu Leu Glu Thr Ala Phe Leu Glu His Lys Glu Gln Phe His Tyr Phe Ile Leu Ile Asn Cys Gly Ala Asn Val Asp Leu Leu Asp Ile Leu Gln Pro Asp 90 Glu Asp Thr Ile Phe Phe Val Cys Asp Ser His Arg Pro Val Asn Val Val Asn Val Tyr Asn Asp Thr Gln Ile Lys Leu Leu Ile Lys 120 110 Gln Asp Asp Leu Glu Val Pro Ala Tyr Glu Asp Ile Phe Arg 135 Asp Glu Glu Asp Glu Glu His Ser Gly Asn Asp Ser Asp Gly Ser Glu Pro Ser Glu Lys Arg Thr Arg Leu Glu Glu Glu Ile Val Glu Gln Thr Met Arg Arg Arg Gln Arg Arg Glu Trp Glu Ala Arg Arg Arg Asp Ile Leu Phe Asp Tyr Glu Gln Tyr Glu Tyr His Gly 190 185 Thr Ser Ser Ala Met Val Met Phe Glu Leu Ala Trp Met Leu Ser 205 Lys Asp Leu Asn Asp Met Leu Trp Trp Ala Ile Val Gly Leu Thr 225 220 215 Asp Gln Trp Val Gln Asp Lys Ile Thr Gln Met Lys Tyr Val Thr 235

Asp Val Gly Val Leu Gln Arg His Val Ser Arg His Asn His Arg

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Ser	Phe	Glu	Tyr	Asp 275	Leu	Arg	Leu	Val	Leu 280	Tyr	Gln	His	Trp	Ser 285
Leu	His	Asp	Ser	Leu 290	Cys	Asn	Thr	Ser	Tyr 295	Thr	Ala	Ala	Arg	Phe 300
Lys	Leu	Trp	Ser	Val 305	His	Gly	Gln	Lys	Arg 310	Leu	Gln	Glu	Phe	Leu 315
Ala	Asp	Met	Gly	Leu 320	Pro	Leu	Lys	Gln	Val 325	Lys	Gln	Lys	Phe	Gln 330
Ala	Met	Asp	Ile	Ser 335	Leu	Lys	Glu	Asn	Leu 340	Arg	Glu	Met	Ile	Glu 345
Glu	Ser	Ala	Asn	Lys 350	Phe	Gly	Met	Lys	Asp 355	Met	Arg	Val	Gln	Thr 360
Phe	Ser	Ile	His	Phe 365	Gly	Phe	Lys	His	Lys 370	Phe	Leu	Ala	Ser	Asp 375
Val	Val	Phe	Ala	Thr 380	Met	Ser	Leu	Met	Glu 385	Ser	Pro	Glu	Lys	Asp 390
Gly	Ser	Gly	Thr	Asp 395	His	Phe	Ile	Gln	Ala 400	Leu	Asp	Ser	Leu	Ser 405
Arg	Ser	Asn	Leu	Asp 410	Lys	Leu	Tyr	His	Gly 415	Leu	Glu	Leu	Ala	Lys 420
Lys	Gln	Leu	Arg	Ala 425	Thr	Gln	Gln	Thr	Ile 430	Ala	Ser	Cys	Leu	Cys 435
Thr	Asn	Leu	Val	Ile 440	Ser	Gln	Gly	Pro	Phe 445	Leu	Tyr	Cys	Ser	Leu 450
Met	Glu	Gly	Thr	Pro 455	Asp	Val	Met	Leu	Phe 460	Ser	Arg	Pro	Ala	Ser 465
Leu	Ser	Leu	Leu	Ser 470	Lys	His	Leu	Leu	Lys 475	Ser	Phe	Val	Cys	Ser 480
Thr	Lys	Asn	Arg	Arg 485	Cys	Lys	Leu	Leu	Pro 490	Leu	Val	Met	Ala	Ala 495
Pro	Leu	Ser	Met	Glu 500	His	Gly	Thr	Val	Thr 505	Val	Val	Gly	Ile	Pro 510
Pro	Glu	Thr	Asp	Ser 515	Ser	Asp	Arg	Lys	Asn 520	Phe	Phe	Gly	Arg	Ala 525
Phe	Glu	Lys	Ala	Ala 530	Glu	Ser	Thr	Ser	Ser 535	Arg	Met	Leu	His	Asn 540
His	Phe	Asp	Leu	Ser 545	Val	Ile	Glu	Leu	Lys 550	Ala	Glu	Asp	Arg	Ser 555
Lys	Phe	Leu	Asp	Ala	Leu	Ile	Ser	Leu	Leu	Ser				

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 ctcttcgtgg cctcggangt ggatgctctg tgtgcgtgca agatccttca 150
 ggccttgttc cagtgtgacc angtgcaata tangctggtt ccagtttctg 200
 ggtggcaaga acttgaaact gcatttcttg agcataaaga acagtttcat 250
 tattttattc tcataaactg tggagctaat gtagacctat tggatattct 300
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<223> Synthetic oligonucleotide probe
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<210> 45
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<213> Homo sapiens

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taaagaatgc tgtctcctct tggaaaaaaa aaaaaaaa 3089

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 Arg Ala Val Ala Ser Gly Cys Gln Arg Cys Cys Asp Ser Glu Asp
 Pro Leu Asp Pro Ala His Val Ser Ser Ala Ser Ser Gly Arg
 Pro His Ala Leu Pro Glu Ile Arg Pro Tyr Ile Asn Ile Thr Ile
 Leu Lys Gly Asp Lys Gly Asp Pro Gly Pro Met Gly Leu Pro Gly
 Tyr Met Gly Arg Glu Gly Pro Gln Gly Glu Pro Gly Pro Gln Gly
 Ser Lys Gly Asp Lys Gly Glu Met Gly Ser Pro Gly Ala Pro Cys
 Gln Lys Arg Phe Phe Ala Phe Ser Val Gly Arg Lys Thr Ala Leu
                                      130
 His Ser Gly Glu Asp Phe Gln Thr Leu Leu Phe Glu Arg Val Phe
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 Val Asn Leu Asp Gly Cys Phe Asp Met Ala Thr Gly Gln Phe Ala
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 Ala Pro Leu Arg Gly Ile Tyr Phe Phe Ser Leu Asn Val His Ser
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                 170
 Trp Asn Tyr Lys Glu Thr Tyr Val His Ile Met His Asn Gln Lys
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 Glu Ala Val Ile Leu Tyr Ala Gln Pro Ser Glu Arg Ser Ile Met
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Gln Ser Gln Ser Val Met Leu Asp Leu Ala Tyr Gly Asp Arg Val 215 220 225														
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<212> PRT

<213> Homo sapiens

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Ser Gln Pro Gln Thr 35 Val Phe Cys Thr Ala Arg Gln Gly Thr Thr 45

Val Pro Arg Asp Val Pro Pro Asp Thr Val Gly Leu Tyr Val Phe 60

Glu Asn Gly Ile Thr Met Leu Asp Ala Gly Ser Phe Ala Gly Leu 75

Pro Gly Leu Gln Leu Asp Leu Ser Gln Asn Gln Ile Ala Ser 90

Leu Pro Ser Gly Val Phe Gln Pro Leu Ala Asn Leu Ser Asn Leu

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Arg	Gly	Leu	Arg	Arg 125	Leu	Glu	Arg	Leu	Tyr 130	Leu	Gly	Lys	Asn	Arg 135
Ile	Arg	His	Ile	Gln 140	Pro	Gly	Ala	Phe	Asp 145	Thr	Leu	Asp	Arg	Leu 150
Leu	Glu	Leu	Lys	Leu 155	Gln	Asp	Asn	Glu	Leu 160	Arg	Ala	Leu	Pro	Pro 165
Leu	Arg	Leu	Pro	Arg 170	Leu	Leu	Leu	Leu	Asp 175	Leu	Ser	His	Asn	Ser 180
Leu	Leu	Ala	Leu	Glu 185	Pro	Gly	Ile	Leu	Asp 190	Thr	Ala	Asn	Val	Glu 195
Ala	Leu	Arg	Leu	Ala 200	Gly	Leu	Gly	Leu	Gln 205	Gln	Leu	Asp	Glu	Gly 210
Leu	Phe	Ser	Arg	Leu 215	Arg	Asn	Leu	His	Asp 220	Leu	Asp	Val	Ser	Asp 225
Asn	Gln	Leu	Glu	Arg 230	Val	Pro	Pro	Val	Ile 235	Arg	Gly	Leu	Arg	Gly 240
Leu	Thr	Arg	Leu	Arg 245	Leu	Ala	Gly	Asn	Thr 250	Arg	Ile	Ala	Gln	Leu 255
Arg	Pro	Glu	Asp	Leu 260	Ala	Gly	Leu	Ala	Ala 265	Leu	Gln	Glu	Leu	Asp 270
Val	Ser	Asn	Leu	Ser 275	Leu	Gln	Ala	Leu	Pro 280	Gly	Asp	Leu	Ser	Gly 285
Leu	Phe	Pro	Arg	Leu 290	Arg	Leu	Leu	Ala	Ala 295	Ala	Arg	Asn	Pro	Phe 300
Asn	Cys	Val	Суз	Pro 305	Leu	Ser	Trp	Phe	Gly 310	Pro	Trp	Val	Arg	Glu 315
Ser	His	Val	Thr	Leu 320	Ala	Ser	Pro	Glu	Glu 325	Thr	Arg	Cys	His	Phe 330
Pro	Pro	Lys	Asn	Ala 335		Arg	Leu	Leu	Leu 340	Glu	Leu	Asp	Tyr	Ala 345
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Asn Lys Lys Val Met Arg Thr Lys Ser Ser Glu Lys Ala Ala Asn 115

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Gly	Asp	Tyr	Trp	Arg 680	Leu	Leu	Asn	Pro	Gly 685	Glu	Tyr	Val	Val	Thr 690
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Gly	Tyr	Asp	Met	Gly 710	Ala	Thr	Arg	Суз	Asp 715	Phe	Thr	Leu	Ser	Lys 720
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 cccagccccg gcttcagctc tttcccaggt gttgactcca gctccagctt 150
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Pro	Thr	Pro	Gly	Ser 245	Cys	Gly	His	Gly	Gly 250	Val	Val	Asn	Ile	Ser 255
Lys	Pro	Ser	Val	Val 260	Gln	Leu	Asn	Trp	Arg 265	Gly	Phe	Ser	Tyr	Leu 270
Tyr	Gly	Ala	Trp	Gly 275	Arg	Asp	Tyr	Ser	Pro 280	Gln	His	Pro	Asn	Lys 285
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Glu	Tyr	Tyr	Arg	Leu 305	Tyr	Asn	Thr	Leu	Asp 310	Asp	Leu	Leu	Leu	Tyr 315
Ile	Asn	Ala	Arg	Glu 320	Leu	Arg	Ile	Thr	Tyr 325	Gly	Gln	Gly	Ser	Gly 330
Thr	Ala	Val	Tyr	Asn 335	Asn	Asn	Met	Tyr	Val 340	Asn	Met	Tyr	Asn	Thr 345
Gly	Asn	Ile	Ala	Arg 350	Val	Asn	Leu	Thr	Thr 355	Asn	Thr	Ile	Ala	Val 360
Thr	Gln	Thr	Leu	Pro 365	Asn	Ala	Ala	Tyr	Asn 370	Asn	Arg	Phe	Ser	Tyr 375
Ala	Asn	Val	Ala	Trp 380	Gln	Asp	Ile	Asp	Phe 385	Ala	Val	Asp	Glu	Asn 390
Gly	Leu	Trp	Val	Ile 395	Tyr	Ser	Thr	Glu	Ala 400	Ser	Thr	Gly ·	Asn	Met 405
Val	Ile	Ser	Lys	Leu 410	Asn	Asp	Thr	Thr	Leu 415	Gln	Val	Leu	Asn	Thr 420
Trp	Tyr	Thr	Lys	Gln 425	Tyr	Lys	Pro	Ser	Ala 430	Ser	Asn	Ala	Phe	Met 435
Val	Cys	Gly	Val	Leu 440	Tyr	Ala	Thr	Arg	Thr 445	Met	Asn	Thr	Arg	Thr 450
Glu	Glu	Ile	Phe	Tyr 455	Tyr	Tyr	Asp	Thr	Asn 460	Thr	Gly	Lys	Glu	Gly 465
Lys	Leu	Asp	Ile	Val 470	Met	His	Lys	Met	Gln 475	Glu	Lys	Val	Gln	Ser 480
Ile	Asn	Tyr	Asn	Pro 485	Phe	Asp	Gln	Lys	Leu 490	Tyr	Val	Tyr	Asn	Asp 495
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gtattataga ctgtacaacc cactggatga tttgctattg tatataaatg 300
 ctcgagagtt gcggatcacc tatggccaag gtagtggtac agcagtttac 350
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<211> 3127
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280

285

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Gln Gly Ile Ile Gly Leu Ile Leu Phe Leu Cys Val Phe Tyr
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Ser Ser Ile Arg Thr Ser Asn Asn Ser Gln Val Asn Lys Leu Thr
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                                    340
Leu Thr Ser Asp Glu Ser Thr Leu Ile Glu Asp Gly Gly Ala Arg
                                    355
                350
Ser Asp Gly Ser Leu Glu Asp Gly Asp Asp Val His Arg Ala Val
Asp Asn Glu Arg Asp Gly Val Thr Tyr Ser Tyr Ser Phe Phe His
                                                         390
                380
Phe Met Leu Phe Leu Ala Ser Leu Tyr Ile Met Met Thr Leu Thr
                                     400
Asn Trp Ser Arg Tyr Glu Pro Ser Arg Glu Met Lys Ser Gln Trp
Thr Ala Val Trp Val Lys Ile Ser Ser Ser Trp Ile Gly Ile Val
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<211> 480

<212> DNA

<213> Homo sapiens

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<221> unsure

<222> 48, 163

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<210> 75

<211> 438

<212> DNA

<213> Homo sapiens

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<221> unsure

<222> 32, 65, 92, 121, 142, 154, 170, 293, 315, 323

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<223> unknown base

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tgctgtccta gtggaaacaa ntccactgta attagattga tntatgcact 150

tttnttgctt gttggagtan gtgtagcttg tgtaatgttg ataccaggaa 200

tggaagaaca actgaataag attcctggat tttgtgagaa tgagaaaggt 250

gttgtccctt gtaacatttt ggttggctat aaagctgtat atngtttgtg 300

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<222> 48

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aacaacteea etgtaactag attgatetat geaettttet tgettgttgg 200
agtatgtgta gettgtgtaa tgttgatace aggaatggaa gaacaactga 250
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attttggttg getataaage tgtatategt ttgtgetttg gtttggetat 350
gttetatett etteteett taetaatgat eaaagtgaag agtageagtg 400
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<213> Homo sapiens
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<221> unsure
<222> 21, 111
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 gaaaggtgtt gtccccttgt aacatttttg gttggctata aagctgtata 200
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 cttcattcca gaaggaactt ttacaactgt gtggttttat gtaggcatgg 400
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 gagatgttgg tatgcagcct tgttatcagc tacagctctg aattatctgc 550
 tgtctttagt tgctatcgtc ctgttctttg tctactacac tcatccagcc 600
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 tggtgcttct gtaatg 666
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<210> 79
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<210> 82
<211> 54
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
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<213> Homo sapiens
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  gtgtcgaatc tgcgagtgaa gagggacgag ggaaaagaaa caaagccaca 550
  gacgcaactt gagactcccg catcccaaaa gaagcaccag atcagcaaaa 600
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<212> PRT

<213> Homo sapiens

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Ser Arg Ser Ser Ile Leu Thr Gly Lys Tyr Val His Asn His Asn

100 Thr Tyr Thr Asn Asn Glu Asn Cys Ser Ser Pro Ser Trp Gln Ala

110

Gln His Glu Ser Arg Thr Phe Ala Val Tyr Leu Asn Ser Thr Gly

Tyr Arg Thr Ala Phe Phe Gly Lys Tyr Leu Asn Glu Tyr Asn Gly

Ser Tyr Val Pro Pro Gly Trp Lys Glu Trp Val Gly Leu Leu Lys

Asn Ser Arg Phe Tyr Asn Tyr Thr Leu Cys Arg Asn Gly Val Lys

Glu Lys His Gly Ser Asp Tyr Ser Lys Asp Tyr Leu Thr Asp Leu 190 185

Ile Thr Asn Asp Ser Val Ser Phe Phe Arg Thr Ser Lys Lys Met 205

Tyr Pro His Arg Pro Val Leu Met Val Ile Ser His Ala Ala Pro 225 220 215

His Gly Pro Glu Asp Ser Ala Pro Gln Tyr Ser Arg Leu Phe Pro 235 230

Asn Ala Ser Gln His Ile Thr Pro Ser Tyr Asn Tyr Ala Pro Asn 250

Pro Asp Lys His Trp Ile Met Arg Tyr Thr Gly Pro Met Lys Pro Ile His Met Glu Phe Thr Asn Met Leu Gln Arg Lys Arg Leu Gln Thr Leu Met Ser Val Asp Asp Ser Met Glu Thr Ile Tyr Asn Met 300 Leu Val Glu Thr Gly Glu Leu Asp Asn Thr Tyr Ile Val Tyr Thr 305 310 Ala Asp His Gly Tyr His Ile Gly Gln Phe Gly Leu Val Lys Gly 320 Lys Ser Met Pro Tyr Glu Phe Asp Ile Arg Val Pro Phe Tyr Val Arg Gly Pro Asn Val Glu Ala Gly Cys Leu Asn Pro His Ile Val Leu Asn Ile Asp Leu Ala Pro Thr Ile Leu Asp Ile Ala Gly Leu 365 370 Asp Ile Pro Ala Asp Met Asp Gly Lys Ser Ile Leu Lys Leu Leu Asp Thr Glu Arg Pro Val Asn Arg Phe His Leu Lys Lys Met Arg Val Trp Arg Asp Ser Phe Leu Val Glu Arg Gly Lys Leu Leu 415 410 His Lys Arg Asp Asn Asp Lys Val Asp Ala Gln Glu Glu Asn Phe 425 430 Leu Pro Lys Tyr Gln Arg Val Lys Asp Leu Cys Gln Arg Ala Glu Tyr Gln Thr Ala Cys Glu Gln Leu Gly Gln Lys Trp Gln Cys Val 460 Glu Asp Ala Thr Gly Lys Leu Lys Leu His Lys Cys Lys Gly Pro Met Arg Leu Gly Gly Ser Arg Ala Leu Ser Asn Leu Val Pro Lys Tyr Tyr Gly Gln Gly Ser Glu Ala Cys Thr Cys Asp Ser Gly Asp 500 Tyr Lys Leu Ser Leu Ala Gly Arg Arg Lys Lys Leu Phe Lys Lys Lys Tyr Lys Ala Ser Tyr Val Arg Ser Arg Ser Ile Arg Ser Val 540 530 Ala Ile Glu Val Asp Gly Arg Val Tyr His Val Gly Leu Gly Asp 550 Ala Ala Gln Pro Arg Asn Leu Thr Lys Arg His Trp Pro Gly Ala 565

Pro Glu Asp Gln Asp Asp Lys Asp Gly Gly Asp Phe Ser Gly Thr 575 Gly Gly Leu Pro Asp Tyr Ser Ala Ala Asn Pro Ile Lys Val Thr His Arg Cys Tyr Ile Leu Glu Asn Asp Thr Val Gln Cys Asp Leu Asp Leu Tyr Lys Ser Leu Gln Ala Trp Lys Asp His Lys Leu His 625 Ile Asp His Glu Ile Glu Thr Leu Gln Asn Lys Ile Lys Asn Leu 635 Arg Glu Val Arg Gly His Leu Lys Lys Lys Arg Pro Glu Glu Cys Asp Cys His Lys Ile Ser Tyr His Thr Gln His Lys Gly Arg Leu 665 Lys His Arg Gly Ser Ser Leu His Pro Phe Arg Lys Gly Leu Gln Glu Lys Asp Lys Val Trp Leu Leu Arg Glu Gln Lys Arg Lys 695 Lys Leu Arg Lys Leu Leu Lys Arg Leu Gln Asn Asn Asp Thr Cys Ser Met Pro Gly Leu Thr Cys Phe Thr His Asp Asn Gln His Trp 730 Gln Thr Ala Pro Phe Trp Thr Leu Gly Pro Phe Cys Ala Cys Thr Ser Ala Asn Asn Asn Thr Tyr Trp Cys Met Arg Thr Ile Asn Glu Thr His Asn Phe Leu Phe Cys Glu Phe Ala Thr Gly Phe Leu Glu Tyr Phe Asp Leu Asn Thr Asp Pro Tyr Gln Leu Met Asn Ala Val Asn Thr Leu Asp Arg Asp Val Leu Asn Gln Leu His Val Gln Leu Met Glu Leu Arg Ser Cys Lys Gly Tyr Lys Gln Cys Asn Pro Arg 815 Thr Arg Asn Met Asp Leu Asp Gly Gly Ser Tyr Glu Gln Tyr Arg Gln Phe Gln Arg Arg Lys Trp Pro Glu Met Lys Arg Pro Ser Ser 845 Lys Ser Leu Gly Gln Leu Trp Glu Gly Trp Glu Gly 860

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aagggcctgc aagagaag 18
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tcataccaac tgctggtcat tggc 24
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<210> 95 <211> 115 <212> PRT

<213> Homo sapiens

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His His Pro Arg His Thr Pro His His Leu His His His His 100

Pro His Arq His His Pro Arg His Ala Arg 110

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<210> 97

<211> 313

<212> PRT

<213> Homo sapiens

aaaaaaaaa aa 1312

<400> 97

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Leu Leu Leu Thr Leu Leu Ala Phe Ala Gly Tyr Ser Gly Leu 20 25 30

Val Thr Val Ala Tyr Lys Phe His Met Gly Leu Tyr Gly Glu Thr 50 55 60

Gly Arg Leu Phe Thr Glu Ser Cys Ser Ile Ser Pro Lys Leu Arg
65 70 75

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Ser Ile Ala Val Tyr Tyr Asp Asn Pro His Met Val Pro Pro Asp
Lys Cys Arg Cys Ala Val Gly Ser Ile Leu Ser Glu Gly Glu Glu
Ser Pro Ser Pro Glu Leu Ile Asp Leu Tyr Gln Lys Phe Gly Phe
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Lys Val Phe Ser Phe Pro Ala Pro Ser His Val Val Thr Ala Thr
                125
                                     130
Phe Pro Tyr Thr Thr Ile Leu Ser Ile Trp Leu Ala Thr Arg Arg
                                                         150
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Val His Pro Ala Leu Asp Thr Tyr Ile Lys Glu Arg Lys Leu Cys
Ala Tyr Pro Arg Leu Glu Ile Tyr Gln Glu Asp Gln Ile His Phe
                                                         180
                170
Met Cys Pro Leu Ala Arg Gln Gly Asp Phe Tyr Val Pro Glu Met
                                     190
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Lys Glu Thr Glu Trp Lys Trp Arg Gly Leu Val Glu Ala Ile Asp
Thr Gln Val Asp Gly Thr Gly Ala Asp Thr Met Ser Asp Thr Ser
                                                         225
                                     220
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Ser Val Ser Leu Glu Val Ser Pro Gly Ser Arg Glu Thr Ser Ala
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Ala Thr Leu Ser Pro Gly Ala Ser Ser Arg Gly Trp Asp Asp Gly
                                                         255
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Asp Thr Arg Ser Glu His Ser Tyr Ser Glu Ser Gly Ala Ser Gly
                                                         270
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Ser Ser Phe Glu Glu Leu Asp Leu Glu Gly Glu Gly Pro Leu Gly
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<211> 725

<212> DNA

<213> Homo sapiens

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<210> 99 <211> 201

<212> PRT

<213> Homo sapiens

<400> 99

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Pro Pro Glu Pro Cys Ala Glu Pro Ala Ala Phe Gly Asp Thr Leu
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His Ile His Tyr Thr Gly Ser Leu Val Asp Gly Arg Ile Ile Asp 65 70 .75

Thr Ser Leu Thr Arg Asp Pro Leu Val Ile Glu Leu Gly Gln Lys 80 85 90

Gln Val Ile Pro Gly Leu Glu Gln Ser Leu Leu Asp Met Cys Val 95 100 105

Gly Glu Lys Arg Arg Ala Ile Ile Pro Ser His Leu Ala Tyr Gly
110 115 120

Lys Arg Gly Phe Pro Pro Ser Val Pro Ala Asp Ala Val Val Gln 125 130 135

Tyr Asp Val Glu Leu Ile Ala Leu Ile Arg Ala Asn Tyr Trp Leu 140 145 150

Lys Leu Val Lys Gly Ile Leu Pro Leu Val Gly Met Ala Met Val 155 160 165

Pro Ala Leu Leu Gly Leu Ile Gly Tyr His Leu Tyr Arg Lys Ala 170 175 180

Asn Arg Pro Lys Val Ser Lys Lys Lys Leu Lys Glu Glu Lys Arg

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<210> 100

<211> 705

<212> DNA

<213> Homo sapiens

<400> 100

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<210> 101

<211> 543

<212> DNA

<213> Homo sapiens

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<213> Homo sapiens

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<211> 157

<212> PRT

<213> Homo sapiens

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Tyr Pro Thr Met Lys Asp Phe Asn His Ser Tyr His Ala Cys Gly 50 60

Val Ile Ala Thr Ile Ala Phe Leu Met Ile Asn Ala Val Ser Asn
65 70 75

Gly Gln Val Arg Gly Asp Ser Tyr Ser Glu Gly Cys Leu Gly Gln 80 85 90

Thr Gly Ala Arg Ile Trp Leu Phe Val Gly Phe Met Leu Ala Phe 95 100 105

Gly Ser Leu Ile Ala Ser Met Trp Ile Leu Phe Gly Gly Tyr Val 110 115 120

Ala Lys Glu Lys Asp Ile Val Tyr Pro Gly Ile Ala Val Phe Phe 125 130 135

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Arg Thr Glu Asp Leu Trp Gln
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<213> Homo sapiens
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 ccgaatcctt tctccgaaga tgtcaaacgg cccccagcgc ccctggtaac 150
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<211> 610

<212> PRT

<213> Homo sapiens

<400> 113

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Asn Pro Phe Ser Glu Asp Val Lys Arg Pro Pro Ala Pro Leu Val

Thr Asp Lys Glu Ala Arg Lys Lys Val Leu Lys Gln Ala Phe Ser 50 60

Ala Asn Gln Val Pro Glu Lys Leu Asp Val Val Val Ile Gly Ser 65 70 75

Gly Phe Gly Gly Leu Ala Ala Ala Ala Ile Leu Ala Lys Ala Gly 80 85 90

Lys Arg Val Leu Val Leu Glu Gln His Thr Lys Ala Gly Gly Cys 95 100 105

Cys	His	Thr	Phe	Gly 110	Lys	Asn	Gly	Leu	Glu 115	Phe	Asp	Thr	Gly	Ile 120
His	Tyr	Ile	Gly	Arg 125	Met	Glu	Glu	Gly	Ser 130	Ile	Gly	Arg	Phe	Ile 135
Leu	Asp	Gln	Ile	Thr 140	Glu	Gly	Gln	Leu	Asp 145	Trp	Ala	Pro	Leu	Ser 150
Ser	Pro	Phe	Asp	Ile 155	Met	Val	Leu	Glu	Gly 160	Pro	Asn	Gly	Arg	Lys 165
Glu	Tyr	Pro	Met	Tyr 170	Ser	Gly	Glu	Lys	Ala 175	Tyr	Ile	Gln	Gly	Leu 180
Lys	Glu	Lys	Phe	Pro 185	Gln	Glu	Glu	Ala	Ile 190	Ile	Asp	Lys	Tyr	Ile 195
Lys	Leu	Val	Lys	Val 200	Val	Ser	Ser	Gly	Ala 205	Pro	His	Ala	Ile	Leu 210
Leu	Lys	Phe	Leu	Pro 215	Leu	Pro	Val	Val	Gln 220	Leu	Leu	Asp	Arg	Cys 225
Gly	Leu	Leu	Thr	Arg 230	Phe	Ser	Pro	Phe	Leu 235	Gln	Ala	Ser	Thr	Gln 240
Ser	Leu	Ala	Glu	Val 245	Leu	Gln	Gln	Leu	Gly 250	Ala	Ser	Ser	Glu	Leu 255
Gln	Ala	Val	Leu	Ser 260	Tyr	Ile	Phe	Pro	Thr 265	Tyr	Gly	Val	Thr	Pro 270
Asn	His	Ser	Ala	Phe 275	Ser	Met	His	Ala	Leu 280	Leu	Val	Asn	His	Tyr 285
Met	Lys	Gly	Gly	Phe 290	Tyr	Pro	Arg	Gly	Gly 295	Ser	Ser	Glu	Ile	Ala 300
Phe	His	Thr	Ile	Pro 305	Val	Ile	Gln	Arg	Ala 310	Gly	Gly	Ala	Val	Leu 315
Thr	Lys	Ala	Thr	Val 320	Gln	Ser	Val	Leu	Leu 325	Asp	Ser	Ala	Gly	Lys 330
Ala	Cys	Gly	Val	Ser 335		Lys	Lys	Gly	His 340	Glu	Leu	Val	Asn	Ile 345
Tyr	Cys	Pro	Ile	Val 350		Ser	Asn	Ala	Gly 355	Leu	Phe	Asn	Thr	Tyr 360
Glu	His	Leu	Leu	Pro 365		Asn	Ala	Arg	Cys 370		Pro	Gly	Val	Lys 375
Gln	Gln	Leu	Gly	Thr 380		Arg	Pro	Gly	Leu 385	Gly	Met	Thr	Ser	Val 390
Phe	Ile	Cys	Leu	Arg 395		Thr	Lys	Glu	Asp 400		His	Leu	Pro	Ser 405
Thr	Asn	Tyr	Tyr	Val 410		Tyr	Asp	Thr	Asp 415		Asp	Gln	Ala	Met 420

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Glu Asp Arg Phe Pro Gly Arg Ser Thr Met Ile Met Leu Ile Pro
Thr Ala Tyr Glu Trp Phe Glu Glu Trp Gln Ala Glu Leu Lys Gly
Lys Arg Gly Ser Asp Tyr Glu Thr Phe Lys Asn Ser Phe Val Glu
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Ala Ser Met Ser Val Val Leu Lys Leu Phe Pro Gln Leu Glu Gly
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Lys Val Glu Ser Val Thr Ala Gly Ser Pro Leu Thr Asn Gln Phe
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Tyr Leu Ala Ala Pro Arg Gly Ala Cys Tyr Gly Ala Asp His Asp
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Ser Pro Ile Pro Asn Leu Tyr Leu Thr Gly Gln Asp Ile Phe Thr
Cys Gly Leu Val Gly Ala Leu Gln Gly Ala Leu Leu Cys Ser Ser
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<211> 1701

<212> DNA

<213> Homo sapiens

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a 1701

<210> 115

<211> 301 <212> PRT

<213> Homo sapiens

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Lys Asp His Thr Thr Ala Gly Arg Val Val Ala Gly Gln Ile Phe
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Glu Asp Ser Leu Lys Ser Gln Glu Gly Glu Ser Val Thr Glu Asp
Ile Ser Phe Leu Glu Ser Pro Asn Pro Glu Asn Lys Asp Tyr Glu
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                                    100
Glu Pro Lys Lys Val Arg Lys Pro Ala Leu Thr Ala Ile Glu Gly
Thr Ala His Gly Glu Pro Cys His Phe Pro Phe Leu Phe Leu Asp
                125
                                    130
Lys Glu Tyr Asp Glu Cys Thr Ser Asp Gly Arg Glu Asp Gly Arg
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Leu Trp Cys Ala Thr Thr Tyr Asp Tyr Lys Ala Asp Glu Lys Trp
Gly Phe Cys Glu Thr Glu Glu Glu Ala Ala Lys Arg Arg Gln Met
Gln Glu Ala Glu Met Met Tyr Gln Thr Gly Met Lys Ile Leu Asn
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Gly Ser Asn Lys Lys Ser Gln Lys Arg Glu Ala Tyr Arg Tyr Leu
                                    205
Gln Lys Ala Ala Ser Met Asn His Thr Lys Ala Leu Glu Arg Val
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Ser Tyr Ala Leu Leu Phe Gly Asp Tyr Leu Pro Gln Asn Ile Gln
                                                         240
                230
                                     235
Ala Ala Arg Glu Met Phe Glu Lys Leu Thr Glu Glu Gly Ser Pro
Lys Gly Gln Thr Ala Leu Gly Phe Leu Tyr Ala Ser Gly Leu Gly
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Ala Leu Gly Gly Asn Leu Ile Ala His Met Val Leu Val Ser Arg
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Leu

<210> 116

<211> 584

<212> DNA

<213> Homo sapiens

<400> 116

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agctggatgc actgctggtc ttcccaggcc aagtggctca actctcctgc 200
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ccagcagcgg gcaggcagtg cccctcgata tctcctcac taccgctcgg 300
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aaggatgagg cccacaatgc ctgtgtcctc accattagtc ccgtgcagcc 400
tgaagacgac gcggattact actgctctgt tggctacggc tttagtccct 450
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aaaatgggtt aataatattc aacatgtcaa caac 584

<210> 117

<211> 123

<212> PRT

<213> Homo sapiens

<400> 117

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Phe Pro Gly Gln Val Ala Gln Leu Ser Cys Thr Leu Ser Pro Gln 35° 40 45

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THE PERSON OF TH

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<210> 129

<211> 438

<212> PRT

<213> Homo sapiens

<400> 129

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Val Ser Ser Val Met Gln Pro Tyr Pro Leu Val Trp Gly His Tyr
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Asp Leu Cys Lys Thr Gln Ile Tyr Thr Glu Glu Gly Lys Val Trp
35 40 45

Asp Tyr Met Ala Cys Gln Pro Glu Ser Thr Asp Met Thr Lys Tyr 50 55 60

Leu Lys Val Lys Leu Asp Pro Pro Asp Ile Thr Cys Gly Asp Pro 657075

Pro Glu Thr Phe Cys Ala Met Gly Asn Pro Tyr Met Cys Asn Asn 80 85 90

Glu Cys Asp Ala Ser Thr Pro Glu Leu Ala His Pro Pro Glu Leu 95 100 105

Met Phe Asp Phe Glu Gly Arg His Pro Ser Thr Phe Trp Gln Ser

Ala Thr Trp Lys Glu Tyr Pro Lys Pro Leu Gln Val Asn Ile Thr

				125					130					135
Leu	Ser	Trp	Ser	Lys 140	Thr	Ile	Glu	Leu	Thr 145	Asp	Asn	Ile	Val	Ile 150
Thr	Phe	Glu	Ser	Gly 155	Arg	Pro	Asp	Gln	Met 160	Ile	Leu	Glu	Lys	Ser 165
Leu	Asp	Tyr	Gly	Arg 170	Thr	Trp	Gln	Pro	Tyr 175	Gln	Tyr	Tyr	Ala	Thr 180
Asp	Cys	Leu	Asp	Ala 185	Phe	His	Met	Asp	Pro 190	Lys	Ser	Val	Lys	Asp 195
Leu	Ser	Gln	His	Thr 200	Val	Leu	Glu	Ile	Ile 205	Cys	Thr	Glu	Glu	Tyr 210
Ser	Thr	Gly	Tyr	Thr 215	Thr	Asn	Ser	Lys	Ile 220	Ile	His	Phe	Glu	Ile 225
Lys	Asp	Arg	Phe	Ala 230	Leu	Phe	Ala	Gly	Pro 235	Arg	Leu	Arg	Asn	Met 240
Ala	Ser	Leu	Tyr	Gly 245	Gln	Leu	Asp	Thr	Thr 250	Lys	Lys	Leu	Arg	Asp 255
Phe	Phe	Thr	Val	Thr 260	Asp	Leu	Arg	Ile	Arg 265	Leu	Leu	Arg	Pro	Ala 270
Val	Gly	Glu	Ile	Phe 275	Val	Asp	Glu	Leu	His 280	Leu	Ala	Arg	Tyr	Phe 285
Tyr	Ala	Ile	Ser	Asp 290	Ile	Lys	Val	Arg	Gly 295	Arg	Cys	Lys	Суз	Asn 300
Leu	His	Ala	Thr	Val 305	Cys	Val	Tyr	Asp	Asn 310	Ser	Lys	Leu	Thr	Cys 315
Glu	Cys	Glu	His	Asn 320	Thr	Thr	Gly	Pro	Asp 325	Cys	Gly	Lys	Cys	Lys 330
Lys	Asn	Tyr	Gln	Gly 335	Arg	Pro	Trp	Ser	Pro 340	Gly	Ser	Tyr	Leu	Pro 345
Ile	Pro	Lys	Gly	Thr 350	Ala	Asn	Thr	Cys	Ile 355	Pro	Ser	Ile	Ser	Ser 360
Ile	Gly	Thr	Asn	Val 365	Cys	. Asp	Asn	Glu	Leu 370	Leu	His	Cys	Gln	Asn 375
Gly	Gly	Thr	Cys	His 380	Asn	Asn	Val	Arg	Cys 385		Cys	Pro	Ala	Ala 390
Tyr	Thr	Gly	Ile	Leu 395	Суз	Glu	Lys	Leu	Arg 400	Cys	Glu	Glu	Ala	Gly 405
Ser	Cys	Gly	Ser	Asp 410	Ser	Gly	Gln	Gly	Ala 415		Pro	His	Gly	Thr 420
Pro	Ala	Leu	Leu	Leu 425		Thr	Thr	Leu	Leu 430		Thr	Ala	Ser	Pro 435
Leu	Val	Phe												

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<210> 133
<211> 50
<212> DNA
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<223> Synthetic oligonucleotide probe
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<210> 134
<211> 1493
<212> DNA
<213> Homo sapiens
<400> 134
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<210> 135

<211> 228

<212> PRT

<213> Homo sapiens

<400> 135

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Leu Pro Leu Ser Ala Ser Thr Asp Phe Tyr His Thr Gln Asp Phe 20 25 30

Leu Glu Trp Arg Arg Leu Lys Ser Leu Ala Leu Arg Leu Ala 35 40 45

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Gln Tyr Pro Gly Arg Gly Ser Ala Glu Gly Cys Asp Phe Ser Ile
His Phe Ser Ser Phe Gly Asp Val Ala Cys Met Ala Ile Cys Ser
Cys Gln Cys Pro Ala Ala Met Ala Phe Cys Phe Leu Glu Thr Leu
                                                          90
                                      85
Trp Trp Glu Phe Thr Ala Ser Tyr Asp Thr Thr Cys Ile Gly Leu
                                     100
Ala Ser Arg Pro Tyr Ala Phe Leu Glu Phe Asp Ser Ile Ile Gln
                                                         120
                110
Lys Val Lys Trp His Phe Asn Tyr Val Ser Ser Ser Gln Met Glu
                                     130
                125
Cys Ser Leu Glu Lys Ile Gln Glu Glu Leu Lys Leu Gln Pro Pro
                                                         150
                                     145
Ala Val Leu Thr Leu Glu Asp Thr Asp Val Ala Asn Gly Val Met
                155
                                     160
Asn Gly His Thr Pro Met His Leu Glu Pro Ala Pro Asn Phe Arg
                                     175
Met Glu Pro Val Thr Ala Leu Gly Ile Leu Ser Leu Ile Leu Asn
                                     190
                185
Ile Met Cys Ala Ala Leu Asn Leu Ile Arg Gly Val His Leu Ala
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Glu His Ser Leu Gln Asp Pro Arg Ser Trp Phe Cys Trp Leu Asp
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Gln Thr Ser

<210> 136

<211> 239

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

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<223> unknown base

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<210> 137

<211> 2300

<212> DNA

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<210> 138

<211> 489

<212> PRT

<213> Homo sapiens

<400> 138

Met Glu Ala Pro Asp Tyr Glu Val Leu Ser Val Arg Glu Gln Leu
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Phe His Glu Arg Ile Arg Glu Cys Ile Ile Ser Thr Leu Leu Phe 20 25 30

Ala Thr Leu Tyr Ile Leu Cys His Ile Phe Leu Thr Arg Phe Lys 35 40 45

Lys Pro Ala Glu Phe Thr Thr Val Asp Asp Glu Asp Ala Thr Val 50 55 60

Asn Lys Ile Ala Leu Glu Leu Cys Thr Phe Thr Leu Ala Ile Ala 65 70 75

Leu Gly Ala Val Leu Leu Leu Pro Phe Ser Ile Ile Ser Asn Glu 80 85 90

Val Leu Leu Ser Leu Pro Arg Asn Tyr Tyr Ile Gln Trp Leu Asn 95 100 105

Gly Ser Leu Ile His Gly Leu Trp Asn Leu Val Phe Leu Phe Pro 110 115 120

Asn Leu Ser Leu Ile Phe Leu Met Pro Phe Ala Tyr Phe Phe Thr

				125					130					135
Glu	Ser	Glu	Gly	Phe 140	Ala	Gly	Ser	Arg	Lys 145	Gly	Val	Leu	Gly	Arg 150
Val	Tyr	Glu	Thr	Val 155	Val	Met	Leu	Met	Leu 160	Leu	Thr	Leu	Leu	Val 165
Leu	Gly	Met	Val	Trp 170	Val	Ala	Ser	Ala	Ile 175	Val	Asp	Lys	Asn	Lys 180
Ala	Asn	Arg	Glu	Ser 185	Leu	Tyr	Asp	Phe	Trp 190	Glu	Tyr	Tyr	Leu	Pro 195
Tyr	Leu	Tyr	Ser	Cys 200	Ile	Ser	Phe	Leu	Gly 205	Val	Leu	Leu	Leu	Leu 210
Val	Cys	Thr	Pro	Leu 215	Gly	Leu	Ala	Arg	Met 220	Phe	Ser	Val	Thr	Gly 225
Lys	Leu	Leu	Val	Lys 230	Pro	Arg	Leu	Leu	Glu 235	Asp	Leu	Glu	Glu	Gln 240
Leu	Tyr	Cys	Ser	Ala 245	Phe	Glu	Glu	Ala	Ala 250	Leu	Thr	Arg	Arg	Ile 255
Cys	Asn	Pro	Thr	Ser 260	Cys	Trp	Leu	Pro	Leu 265	Asp	Met	Glu	Leu	Leu 270
His	Arg	Gln	Val	Leu 275	Ala	Leu	Gln	Thr	Gln 280	Arg	Val	Leu	Leu	Glu 285
Lys	Arg	Arg	Lys	Ala 290	Ser	Ala	Trp	Gln	Arg 295	Asn	Leu	Gly	Tyr	Pro 300
Leu	Ala	Met	Leu	Cys 305	Leu	Leu	Val	Leu	Thr 310	Gly	Leu	Ser	Val	Leu 315
Ile	Val	Ala	Ile	His 320	Ile	Leu	Glu	Leu	Leu 325	Ile	Asp	Glu	Ala	Ala 330
Met	Pro	Arg	Gly	Met 335	Gln	Gly	Thr	Ser	Leu 340	Gly	Gln	Val	Ser	Phe 345
Ser	Lys	Leu	Gly	Ser 350	Phe	Gly	Ala	Val	Ile 355	Gln	Val	Val	Leu	11e 360
Phe	Tyr	Leu	Met	Val 365	Ser	Ser	Val	Val	Gly 370	Phe	Tyr	Ser	Ser	Pro 375
Leu	Phe	Arg	Ser	Leu 380	Arg	Pro	Arg	Trp	His 385	Asp	Thr	Ala	Met	Thr 390
Gln	Ile	Ile	Gly	Asn 395	Cys	Val	Cys	Leu	Leu 400	Val	Leu	Ser	Ser	Ala 405
Leu	Pro	Val	Phe	Ser 410	Arg	Thr	Leu	Gly	Leu 415	Thr	Arg	Phe	Asp	Leu 420
Leu	Gly	Asp	Phe	Gly 425	Arg	Phe	Asn	Trp	Leu 430	Gly	Asn	Phe	Tyr	Ile 435

440 445 450

Leu Val Lys Thr Phe Thr Ala Ala Val Arg Ala Glu Leu Ile Arg 455 460 465

Ala Phe Gly Leu Asp Arg Leu Pro Leu Pro Val Ser Gly Phe Pro 470 475 480

Gln Ala Ser Arg Lys Thr Gln His Gln 485

<210> 139

<211> 294

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 53, 57

<223> unknown base

<400> 139

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<210> 140

<211> 526

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 197, 349

<223> unknown base

<400> 140

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 <211> 685
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  tccatggacc acagtcttcc aaggagagag agtgaccctc acttgcaagg 250
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<210> 146

<211> 124

<212> PRT

<213> Homo sapiens

<400> 146

Met Leu Leu Trp Val Ile Leu Leu Val Leu Ala Pro Val Ser Gly 1 5 10 15

Gln Phe Ala Arg Thr Pro Arg Pro Ile Ile Phe Leu Gln Pro Pro 20 25 30

Trp Thr Thr Val Phe Gln Gly Glu Arg Val Thr Leu Thr Cys Lys 35 40 45

Gly Phe Arg Phe Tyr Ser Pro Gln Lys Thr Lys Trp Tyr His Arg
50 55 60

Tyr Leu Gly Lys Glu Ile Leu Arg Glu Thr Pro Asp Asn Ile Leu
65 70 75

Glu Val Gln Glu Ser Gly Glu Tyr Arg Cys Gln Ala Gln Gly Ser 80 85 90

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Phe Pro His Ala Ala Gln Ala Asn Val Glu Leu Leu Gly Ser Ser 110 115 120

Asp Leu Leu Thr

<210> 147

<211> 1621

<212> DNA

<213> Homo sapiens

<400> 147

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<213> Homo sapiens

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Gly	Val	Pro	Arg	Ser 35	Ala	Ser	Ile	Lys	Asp 40	Ile	Lys	Lys	Ala	Tyr 45
Arg	Lys	Leu	Ala	Leu 50	Gln	Leu	His	Pro	Asp 55	Arg	Asn	Pro	Asp	Asp 60
Pro	Gln	Ala	Gln	Glu 65	Lys	Phe	Gln	Asp	Leu 70	Gly	Ala	Ala	Tyr	Glu 75
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Glu	Glu	Gly	Leu	Lys 95	Asp	Gly	His	Gln	Ser 100	Ser	His	Gly	Asp	Ile 105
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Pro	Arg	Gln	Gln	Asp 125	Arg	Asn	Ile	Pro	Arg 130	Gly	Ser	Asp	Ile	Ile 135
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Lys	Arg	Lys	Cys	Asn 170	Cys	Arg	Gln	Glu	Met 175	Arg	Thr	Thr	Gln	Leu 180
Gly	Pro	Gly	Arg	Phe 185	Gln	Met	Thr	Gln	Glu 190	Val	Val	Cys	Asp	Glu 195
Cys	Pro	Asn	Val	Lys 200	Leu	Val	Asn	Glu	Glu 205	Arg	Thr	Leu	Glu	Val 210
Glu	Ile	Glu	Pro	Gly 215	Val	Arg	Asp	Gly	Met 220	Glu	Tyr	Pro	Phe	Ile 225
Gly	Glu	Gly	Glu	Pro 230	His	Val	Asp	Gly	Glu 235	Pro	Gly	Asp	Leu	Arg 240
Phe	Arg	Ile	Lys	Val 245	Val	Lys	His	Pro	Ile 250	Phe	Glu	Arg	Arg	Gly 255
Asp	Asp	Leu	Tyr	Thr 260		Val	Thr	Ile	Ser 265		Val	Glu	Ser	Leu 270
Val	Gly	Phe	Glu	Met 275		Ile	Thr	His	Leu 280		Gly	His	Lys	Val 285
His	Ile	Ser	Arg	Asp 290		Ile	Thr	Arg	Pro 295	Gly	Ala	Lys	Leu	Trp 300

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<211> 226

<212> PRT

<213> Homo sapiens

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35 40 45

Ile Val Asp Leu Ile Gly Ala Met Glu Thr Gln Ser Glu Pro Ser 50 55 60

Glu Leu Glu Leu Asp Asp Val Val Ile Thr Asn Pro His Ile Glu 65 70 75

Ala Ile Leu Glu As
n Glu Asp Tr
p Ile Glu Asp Ala Ser Gly Leu 80 $\,$ 85 $\,$ 90

Met Ser His Cys Ile Ala Ile Leu Lys Ile Cys His Thr Leu Thr 95 100 105

Glu Lys Leu Val Ala Met Thr Met Gly Ser Gly Ala Lys Met Lys 110 115 120

Thr Ser Ala Ser Val Ser Asp Ile Ile Val Val Ala Lys Arg Ile 125 130 135

Ser Pro Arg Val Asp Asp Val Val Lys Ser Met Tyr Pro Pro Leu 140 145 150

Asp Pro Lys Leu Leu Asp Ala Arg Thr Thr Ala Leu Leu Leu Ser 155 160 165

Val Ser His Leu Val Leu Val Thr Arg Asn Ala Cys His Leu Thr 170 175 180

Gly Gly Leu Asp Trp Ile Asp Gln Ser Leu Ser Ala Ala Glu Glu 185 190 195

His Leu Glu Val Leu Arg Glu Ala Ala Leu Ala Ser Glu Pro Asp 200 205 210

Lys Gly Leu Pro Gly Pro Glu Gly Phe Leu Gln Glu Gln Ser Ala 215 220 225

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<211> 1027

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<213> Homo sapiens

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aatgattete ttttttgaca aageaetaet ggetattgga aatgttttat 200
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- <212> PRT
- <220>
- <221> N-myristoylation Sites
- <222> 11-16, 51-56 and 116-121
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- <220>
- <221> Transmembrane domains
- <222> 12-30, 33-52, 69-89 and 93-109
- <223> Transmembrane domains
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- <221> Aminoacyl-transfer RNA Synthetases.
- <222> 49-59
- <223> Aminoacyl-transfer RNA synthetases class-II protein.
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- Gly Phe Gly Val Phe Phe Leu Phe Phe Gly Met Ile Leu Phe Phe
- Asp Lys Ala Leu Leu Ala Ile Gly Asn Val Leu Phe Val Ala Gly
- Leu Ala Phe Val Ile Gly Leu Glu Arg Thr Phe Arg Phe Phe Phe 55

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Gln Lys His Lys Met Lys Ala Thr Gly Phe Phe Leu Gly Gly Val
Phe Val Val Leu Ile Gly Trp Pro Leu Ile Gly Met Ile Phe Glu
Ile Tyr Gly Phe Phe Leu Leu Phe Arg Gly Phe Phe Pro Val Val
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<210> 155 <211> 1781 <212> DNA <213> Homo sapiens

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<211> 378 <212> PRT

<213> Homo sapiens

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Glu Glu Tyr Tyr Arg Thr Gly Thr Phe Pro Glu Thr Pro Met Val

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Ser	Leu	Val	Leu	Tyr 320	Pro	Phe	Phe	Gln	Phe 325	Leu	Val	Ser	Met	Ile 330
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Leu Asn Asp

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<213> Homo sapiens

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<211> 409

<212> PRT

<213> Homo sapiens

<400> 158

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Gly Phe Leu Leu Gly Glu Val Lys Gly Glu Ala Lys Asn Ser Ile 35 40 45

Thr Asp Ser Gln Met Asp Asp Val Glu Val Val Tyr Thr Ile Asp 50 55

Ile Gln Lys Tyr Ile Pro Cys Tyr Gln Leu Phe Ser Phe Tyr Asn 65 70 75

Ser Ser Gly Glu Val Asn Glu Gln Ala Leu Lys Lys Ile Leu Ser 80 85 90

Asn Val Lys Lys Asn Val Val Gly Trp Tyr Lys Phe Arg Arg His 95 100 105 Ser Asp Gln Ile Met Thr Phe Arg Glu Arg Leu Leu His Lys Asn Leu Gln Glu His Phe Ser Asn Gln Asp Leu Val Phe Leu Leu Leu 125 Thr Pro Ser Ile Ile Thr Glu Ser Cys Ser Thr His Arg Leu Glu 140 145 150 His Ser Leu Tyr Lys Pro Gln Lys Gly Leu Phe His Arg Val Pro 155 Leu Val Val Ala Asn Leu Gly Met Ser Glu Gln Leu Gly Tyr Lys Thr Val Ser Gly Ser Cys Met Ser Thr Gly Phe Ser Arg Ala Val Gln Thr His Ser Ser Lys Phe Phe Glu Glu Asp Gly Ser Leu Lys 200 205 210 Glu Val His Lys Ile Asn Glu Met Tyr Ala Ser Leu Gln Glu Glu Leu Lys Ser Ile Cys Lys Lys Val Glu Asp Ser Glu Gln Ala Val Asp Lys Leu Val Lys Asp Val Asn Arg Leu Lys Arg Glu Ile Glu 250 Lys Arg Arg Gly Ala Gln Ile Gln Ala Ala Arg Glu Lys Asn Ile Gln Lys Asp Pro Gln Glu Asn Ile Phe Leu Cys Gln Ala Leu Arg 275 Thr Phe Phe Pro Asn Ser Glu Phe Leu His Ser Cys Val Met Ser 295 300 Leu Lys Asn Arg His Val Ser Lys Ser Ser Cys Asn Tyr Asn His 310 305 His Leu Asp Val Val Asp Asn Leu Thr Leu Met Val Glu His Thr Asp Ile Pro Glu Ala Ser Pro Ala Ser Thr Pro Gln Ile Ile Lys 335 340 His Lys Ala Leu Asp Leu Asp Asp Arg Trp Gln Phe Lys Arg Ser 350 Arg Leu Leu Asp Thr Gln Asp Lys Arg Ser Lys Ala Asn Thr Gly 365 Ser Ser Asn Gln Asp Lys Ala Ser Lys Met Ser Ser Pro Glu Thr 390 380 385 Asp Glu Glu Ile Glu Lys Met Lys Gly Phe Gly Glu Tyr Ser Arg 400 Ser Pro Thr Phe

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Cys	Asn	His	Leu	Gln 95	Ala	Val	Phe	Ala	Ser 100	Arg	Tyr	Lys	Lys	Phe 105
Asp	Glu	Phe	Phe	Lys 110	Glu	Leu	Leu	Glu	Asn 115	Ala	Glu	Lys	Ser	Leu 120
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His	Phe	Thr	Asp	Glu 185	Tyr	Leu	Glu	Cys	Val 190	Ser	Lys	Tyr	Thr	Glu 195
Gln	Leu	Lys	Pro	Phe 200	Gly	Asp	Val	Pro	Arg 205	Lys	Leu	Lys	Leu	Gln 210
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Ala	Val	Ala	Gly	Asp 230	Val	Val	Ser	Lys	Val 235	Ser	Val	Val	Asn	Pro 240
Thr	Ala	Gln	Cys	Thr 245	His	Ala	Leu	Leu	Lys 250	Met	Ile	Tyr	Cys	Ser 255
His	Суз	Arg	Gly	Leu 260	Val	Thr	Val	Lys	Pro 265	Cys	Tyr	Asn	Tyr	Cys 270
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Phe	Glu	Trp	Asn	Asn 290	Phe	Ile	Asp	Ala	Met 295	Leu	Met	Val	Ala	Glu 300
Arg	Leu	Glu	Gly	Pro 305	Phe	Asn	Ile	Glu	Ser 310	Val	Met	Asp	Pro	Ile 315
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Glu	Gly	Ser	Gly	Ser 500	Gly	Cys	Glu	Tyr	Gln 505	Gln	Cys	Pro	Ser	Glu 510
Phe	Asp	Tyr	Asn	Ala 515	Thr	Asp	His	Ala	Gly 520	Lys	Ser	Ala	Asn	Glu 525
Lys	Ala	Asp	Ser	Ala 530	Gly	Val	Arg	Pro	Gly 535	Ala	Gln	Ala	Tyr	Leu 540
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<213> Homo sapiens

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Asp Asp Lys Pro Asp Asp Ser Gly Lys Asp Pro Lys Pro Asp Phe 35 40 45

Pro Lys Phe Leu Ser Leu Leu Gly Thr Glu Ile Ile Glu Asn Ala 50 55 60

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Lys His Ile Gly Asp Gly Cys Cys Leu Thr Arg Glu Thr Trp Lys

Asp Leu Glu Asn Ala Gln Phe Ser Glu Ile Gln Met Glu Arg Gln

215

205

Pro Pro Pro Leu Lys Trp Leu Pro Val Gly Pro His Ile Met Gly 230

Lys Ala Val Lys Gln Ser Phe Pro Ser Ser Lys Ala Leu Ile Cys 255

Ser Phe Pro Ser Leu Gln Leu Glu Gln Ala Thr His Gln Pro Ile 260

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<211> 371

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Gln Pro Ile Asp Phe Val Pro Asn Ala Leu Arg His Ala Val Asp
50 55 60

Gly Arg Gln Glu Glu Ile Pro Val Val Ile Ala Ala Ser Glu Asp
65 70 75

Arg Leu Gly Gly Ala Ile Ala Ala Ile Asn Ser Ile Gln His Asn 80 85 90

Thr Arg Ser Asn Val Ile Phe Tyr Ile Val Thr Leu Asn Asn Thr 95 100 105

Ala Asp His Leu Arg Ser Trp Leu Asn Ser Asp Ser Leu Lys Ser 110 115 120

Ile Arg Tyr Lys Ile Val Asn Phe Asp Pro Lys Leu Leu Glu Gly 125 130 130

Lys Val Lys Glu Asp Pro Asp Gln Gly Glu Ser Met Lys Pro Leu 140 145 150

Thr Phe Ala Arg Phe Tyr Leu Pro Ile Leu Val Pro Ser Ala Lys 155 160 165

Lys Ala Ile Tyr Met Asp Asp Val Ile Val Gln Gly Asp Ile 170 175 180

Leu Ala Leu Tyr Asn Thr Ala Leu Lys Pro Gly His Ala Ala Ala

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Gly	Ala	Gly	Asn	Gln 215	Tyr	Asn	Tyr	Ile	Gly 220	Tyr	Leu	Asp	Tyr	Lys 225
Lys	Glu	Arg	Ile	Arg 230	Lys	Leu	Ser	Met	Lys 235	Ala	Ser	Thr	Суз	Ser 240
Phe	Asn	Pro	Gly	Val 245	Phe	Val	Ala	Asn	Leu 250	Thr	Glu	Trp	Lys	Arc 255
Gln	Asn	Ile	Thr	Asn 260	Gln	Leu	Glu	Lys	Trp 265	Met	Lys	Leu	Asn	Va] 270
Glu	Glu	Gly	Leu	Tyr 275	Ser	Arg	Thr	Leu	Ala 280	Gly	Ser	Ile	Thr	Th: 285
Pro	Pro	Leu	Leu	Ile 290	Val	Phe	Tyr	Gln	Gln 295	His	Ser	Thr	Ile	Asp 300
Pro	Met	Trp	Asn	Val 305	Arg	His	Leu	Gly	Ser 310	Ser	Ala	Gly	Lys	Arc 315
Tyr	Ser	Pro	Gln	Phe 320	Val	Lys	Ala	Ala	Lys 325	Leu	Leu	His	Trp	Asr 330
Gly	His	Leu	Lys	Pro 335	Trp	Gly	Arg	Thr	Ala 340	Ser	Tyr	Thr	Asp	Va:
Trp	Glu	Lys	Trp	Tyr 350	Ile	Pro	Asp	Pro	Thr 355	Gly	Lys	Phe	Asn	Le: 360
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aac	aata	cag	caga	ccat	nt c	cggt	cctg	g nt	caac	agtg	att	ccct	gaa	300

aagcatcaga tacaaaattg tcaattttga ccctaaactt ttggaaggaa 350

aagtaaagga ggatcctgac cagggggaat ccatgaaacc tttaaccttt 400 gcaaggttct acttgccaat tctggttccc agcgcaaaga aggccatata 450 catggatgat gatgtaattg tgcaaggtga tattcttgcc ctttacaata 500 cagcactgaa gccaggacat gcagctgcat tttcagaaga ttgtgattca 550 gcctctacta aagttgtcat ccgtggagca ggaaa 585

<210> 173

<211> 1866

<212> DNA

<213> Homo sapiens

<400> 173 cgacgctcta gcggttaccg ctgcgggctg gctgggcgta gtggggctgc 50 qcqqctqcca cqqaqctaga qqqcaaqtqt qctcqqccca qcqtqcaqqq 100 aacgcgggcg gccagacaac gggctgggct ccggggcctg cggcgcgggc 150 gctgagctgg cagggcgggt cggggcgcgg gctgcatccg catctcctcc 200 ategeetgea gtaagggegg cegeggegag cetttgaggg gaacgaettg 250 teggageect aaccaggggt gtetetgage etggtgggat eeeeggageg 300 tcacatcact ttccgatcac ttcaaagtgg ttaaaaaacta atatttatat 350 gacagaagaa aaagatgtca ttccgtaaag taaacatcat catcttggtc 400 ctgggctgtt gctctcttct tactggtttt gcaccataac ttcctcagct 450 tqaqqcaqtt tqttaaqqaa tqaqqttaca gattcaggaa ttgtagggcc 500 tcaacctata ggactttgtc ccaaatgctc tccgacatgc agtagatggg 550 agacaagagg agattcctgt ggtcatcgct gcatctgaag acaggcttgg 600 gggggccatt gcagctataa acagcattca gcacaacact cgctccaatg 650 tgattttcta cattgttact ctcaacaata cagcagacca tctccggtcc 700 tgggctcaac agtgattccc tgaaaagcat cagatacaaa attgtcaatt 750 ttgaccctaa acttttggaa ggaaaagtaa aggaggatcc tgaccagggg 800 gaatccatga aacctttaac ctttgcaagg ttctacttgc caattctggg 850 ttcccagcgc aaagaaggcc atatacatgg atgatgatgt aattgtgcaa 900 qqtqatattc ttgcccttta caatacagca ctgaagccag gacatgcagc 950 tgcattttca gaagattgtg attcagcctc tactaaagtt gtcatccgtg 1000 qaqcaqqaaa ccaqtacaat tacattqqct atcttqacta taaaaaggaa 1050 agaattegta agettteeat gaaageeage aettgeteat ttaateetgg 1100 agtttttgtt gcaaacctga cggaatggaa acgacagaat ataactaacc 1150 aactqqaaaa atqqatqaaa ctcaatqtaq aagagggact gtatagcaga 1200 accetggctg gtagcateac aacacetect etgettateg tattitatea 1250
acagcacetet accategate etatgtggaa tgteegeeac ettggtteea 1300
gtgetggaaa acgatatea eeteagttig taaaggetge eaagttaete 1350
cattggaatg gacattigaa gecatggga aggaetgett eatataetga 1400
tgtttgggga aaaatggtat atteeagace eaacaggeaa atteaaceta 1450
ateegaagat atacegagat eteaaacata aagtgaaaca gaattigaac 1500
tgtaagcaag eattieteag gaagteetgg aagatageat gegtgggaag 1550
taacagtige taggetteaa tgeetategg tageaageea tggaaaaaga 1600
tgtgteaget aggtaaagat gacaaactge eetgtetgge agteagette 1650
eeagacagae tatagaetat aaatatgtet eeatetgeet taeeaagtgt 1700
tttettaeta eaatgetgaa tgaetggaaa gaagaactga tatggetagt 1750
teagetaget ggtacagata atteaaaact getgttggtt ttaattitgt 1800
aaceetgtgge etgatetgta aataaaactt acattitea ataggtaaaa 1850
aaaaaaaaaa aaaaaa 1866

<210> 174

<211> 823

<212> DNA

<213> Homo sapiens

<400> 174 ctgcaggtag acatetecae tgcccaggaa teactgageg tgcagacage 50 acagcetect etgaaggeeg geeataceag agteetgeet eggeatggge 100 ctcaccattq aggcagetee actqtctqtq ctggtctgag ggtgctgcct 150 gtcatggggg cagccatctc ccagggggcc ctcatcgcca tcgtctgcaa 200 cggtctcgtg ggcttcttgc tgctgctgct ctgggtcatc ctctgctggg 250 cctqccattc tcqtctqccq acqttqactc tctctctgaa tccagtccca 300 actocagece tggeceetgt cetgagaagg ceccaecace ceagaagece 350 agccatgaag gcagctacct gctgcagccc tgaaggcccc tggcctagcc 400 tggagcccag gacctaagtc cacctcacct agagcctgga attaggatcc 450 cagagttcag ccagcctggg gtccagaact caagagtccg cctgcttgga 500 gctggaccca gcggcccaga gtctagccag cttggctcca ataggagctc 550 agtggcccta aggagatggg cctggggtgg gggcttatga gttggtgcta 600 gagecaggge catetggaet atgetecate ecaagggeca agggteaggg 650 gccgggtcca ctctttccct aggctgagca cctctaggcc ctctaggttg 700 gggaagcaaa ctggaaccca tggcaataat aggagggtgt ccaggctggg 750

cccctccct ggtcctccca gtgtttgctg gataataaat ggaactatgg 800 ctctaaaaaa aaaaaaaaa aaa 823

<210> 175

<211> 87

<212> PRT

<213> Homo sapiens

<400> 175

Met Gly Ala Ala Ile Ser Gln Gly Ala Leu Ile Ala Ile Val Cys 1 5 10 15

Asn Gly Leu Val Gly Phe Leu Leu Leu Leu Leu Trp Val Ile Leu 20 25 30

Cys Trp Ala Cys His Ser Arg Leu Pro Thr Leu Thr Leu Ser Leu 35 40 45

Asn Pro Val Pro Thr Pro Ala Leu Ala Pro Val Leu Arg Arg Pro 50 55 60

His His Pro Arg Ser Pro Ala Met Lys Ala Ala Thr Cys Cys Ser
65 70 75

Pro Glu Gly Pro Trp Pro Ser Leu Glu Pro Arg Thr 80 85

<210> 176

<211> 1660

<212> DNA

<213> Homo sapiens

<400> 176

cccaggctac cagttcctcc aagcaagtca tttcccttat ttaaccgatg 100 tgtccctcaa acacctgagt gctactccct atttgcatct gttttgataa 150 atgatgttga caccctccac cgaattctaa gtggaatcat gtcgggaaga 200 gatacaatcc ttggcctgtg tatcctcgca ttagccttgt ctttggccat 250 gatgtttacc ttcagattca tcaccaccct tctggttcac attttcattt 300 cattggttat tttgggattg ttgtttgtct gcggtgttt atggtggctg 350 tattatgact ataccaacga cctcagcata gaattggaca cagaaaggga 400 aaatatgaag tgcgtgctgg ggtttgctat cgtatccaca ggcatcacgg 450 cagtgctgct cgtcttgatt tttgttctca gaaagagaat aaaattgaca 500 gttgagcttt tccaaatcac aaataaagcc atcagcagt ctcccttcct 550 gctgttccag ccactgtgga catttgccat cctcattttc ttctggtcc 600 tctgggtggc tgtgctgtg agcctgggaa ctgcaggac tgcccaggt 650 atggaaggcg gccaagtgga atataagcc ctttcggca ttcggtacat 700 gtggtcgtac catttaattg gcctcatctg gactagtgaa ttcatccttg 750

cgtgccagca aatgactata gctggggcag tggttacttg ttatttcaac 800 agaagtaaaa atgatcctcc tgatcatccc atcctttcgt ctctctccat 850 tctcttcttc taccatcaag gaaccgttgt gaaagggtca tttttaatct 900 ctgtggtgag gattccgaga atcattgtca tgtacatgca aaacgcactg 950 aaagaacagc agcatggtgc attgtccagg tacctgttcc gatgctgcta 1000 ctgctgtttc tggtgtcttg acaaatacct gctccatctc aaccagaatg 1050 catatactac aactgctatt aatgggacag atttctgtac atcagcaaaa 1100 gatgcattca aaatcttgtc caagaactca agtcacttta catctattaa 1150 ctgctttgga gacttcataa tttttctagg aaaggtgtta gtggtgtgtt 1200 tcactgtttt tggaggactc atggctttta actacaatcg ggcattccag 1250 gtgtgggcag tccctctgtt attggtagct ttttttgcct acttagtagc 1300 ccatagtttt ttatctgtgt ttgaaactgt gctggatgca cttttcctgt 1350 gttttgctgt tgatctggaa acaaatgatg gatcgtcaga aaagccctac 1400 tttatggatc aagaatttct gagtttcgta aaaaggagca acaaattaaa 1450 caatgcaagg gcacagcagg acaagcactc attaaggaat gaggagggaa 1500 cagaactcca ggccattgtg agatagatac ccatttaggt atctgtacct 1550 ggaaaacatt toottotaag agocatttac agaatagaag atgagaccac 1600 tagagaaaag ttagtgaatt ttttttaaa agacctaata aaccctattc 1650 ttcctcaaaa 1660

<210> 177

<211> 445

<212> PRT

<213> Homo sapiens

<400> 177

Met Ser Gly Arg Asp Thr Ile Leu Gly Leu Cys Ile Leu Ala Leu
1 5 10 15

Ala Leu Ser Leu Ala Met Met Phe Thr Phe Arg Phe Ile Thr Thr 20 25 30

Leu Leu Val His Ile Phe Ile Ser Leu Val Ile Leu Gly Leu Leu 35 40 45

Phe Val Cys Gly Val Leu Trp Trp Leu Tyr Tyr Asp Tyr Thr Asn
50 55 60

Asp Leu Ser Ile Glu Leu Asp Thr Glu Arg Glu Asn Met Lys Cys
65 70 75

Val Leu Gly Phe Ala Ile Val Ser Thr Gly Ile Thr Ala Val Leu 80 85 90

Leu Val Leu Ile Phe Val Leu Arg Lys Arg Ile Lys Leu Thr Val

				95					100					105
Glu	Leu	Phe	Gln	Ile 110	Thr	Asn	Lys	Ala	Ile 115	Ser	Ser	Ala	Pro	Phe 120
Leu	Leu	Phe	Gln	Pro 125	Leu	Trp	Thr	Phe	Ala 130	Ile	Leu	Ile	Phe	Phe 135
Trp	Val	Leu	Trp	Val 140	Ala	Val	Leu	Leu	Ser 145	Leu	Gly	Thr	Ala	Gly 150
Ala	Ala	Gln	Val	Met 155	Glu	Gly	Gly	Gln	Val 160	Glu	Tyr	Lys	Pro	Leu 165
Ser	Gly	Ile	Arg	Tyr 170	Met	Trp	Ser	Tyr	His 175	Leu	Ile	Gly	Leu	Ile 180
Trp	Thr	Ser	Glu	Phe 185	Ile	Leu	Ala	Cys	Gln 190	Gln	Met	Thr	Ile	Ala 195
Gly	Ala	Val	Val	Thr 200	Cys	Tyr	Phe	Asn	Arg 205	Ser	Lys	Asn	Asp	Pro 210
Pro	Asp	His	Pro	Ile 215	Leu	Ser	Ser	Leu	Ser 220	Ile	Leu	Phe	Phe	Tyr 225
His	Gln	Gly	Thr	Val 230	Val	Lys	Gly	Ser	Phe 235	Leu	Ile	Ser	Val	Val 240
Arg	Ile	Pro	Arg	Ile 245	Ile	Val	Met	Tyr	Met 250	Gln	Asn	Ala	Leu	Lys 255
Glu	Gln	Gln	His	Gly 260	Ala	Leu	Ser	Arg	Tyr 265	Leu	Phe	Arg	Cys	Cys 270
Tyr	Cys	Cys	Phe	Trp 275	Cys	Leu	Asp	Lys	Tyr 280	Leu	Leu	His	Leu	Asn 285
Gln	Asn	Ala	Tyr	Thr 290	Thr	Thr	Ala	Ile	Asn 295	Gly	Thr	Asp	Phe	Cys 300
Thr	Ser	Ala	Lys	Asp 305	Ala	Phe	Lys	Ile	Leu 310	Ser	Lys	Asn	Ser	Ser 315
His	Phe	Thr	Ser	Ile 320	Asn	Суз	Phe	Gly	Asp 325	Phe	Ile	Ile	Phe	Leu 330
Gly	Lys	Val	Leu	Val 335		Суз	Phe	Thr	Val 340	Phe	Gly	Gly	Leu	Met 345
Ala	Phe	Asn	Tyr	Asn 350		Ala	Phe	Gln	Val 355	Trp	Ala	Val	Pro	Leu 360
Leu	Leu	Val	Ala	Phe 365		Ala	Tyr	Leu	Val 370		His	Ser	Phe	Leu 375
Ser	Val	Phe	Glu	Thr 380		Leu	Asp	Ala	Leu 385	Phe	Leu	Cys	Phe	Ala 390
Val	Asp	Leu	Glu	Thr 395		Asp	Gly	Ser	Ser 400		Lys	Pro	Tyr	Phe 405
Met	Asp	Gln	Glu	Phe	Leu	Ser	Phe	Val	Lys	Arg	Ser	Asn	Lys	Leu

410 415 420

Asn Asn Ala Arg Ala Gln Gln Asp Lys His Ser Leu Arg Asn Glu 425 430 435

Glu Gly Thr Glu Leu Gln Ala Ile Val Arg 440 445

<210> 178

<211> 2773

<212> DNA

<213> Homo sapiens

<400> 178 gttcgattag ctcctctgag aagaagagaa aaggttcttg gacctctccc 50 tgtttcttcc ttagaataat ttgtatggga tttgtgatgc aggaaagcct 100 aagggaaaaa gaatattcat tctgtgtggt gaaaattttt tgaaaaaaaa 150 attgccttct tcaaacaagg gtgtcattct gatatttatg aggactgttg 200 ttctcactat gaaggcatct gttattgaaa tgttccttgt tttgctggtg 250 actggagtac attcaaacaa agaaacggca aagaagatta aaaggcccaa 300 gttcactgtg cctcagatca actgcgatgt caaagccgga aagatcatcg 350 atcctgagtt cattgtgaaa tgtccagcag gatgccaaga ccccaaatac 400 catgtttatg gcactgacgt gtatgcatcc tactccagtg tgtgtggcgc 450 tgccgtacac agtggtgtgc ttgataattc aggagggaaa atacttgttc 500 ggaaggttgc tggacagtct ggttacaaag ggagttattc caacggtgtc 550 caatcgttat ccctaccacg atggagagaa tcctttatcg tcttagaaag 600 taaacccaaa aagggtgtaa cctacccatc agctcttaca tactcatcat 650 cgaaaagtcc agctgcccaa gcaggtgaga ccacaaaagc ctatcagagg 700 ccacctattc cagggacaac tgcacagccg gtcactctga tgcagcttct 750 ggctgtcact gtagctgtgg ccacccccac caccttgcca aggccatccc 800 cttctgctgc ttctaccacc agcatcccca gaccacaatc agtgggccac 850 aggagecagg agatggatet etggtecaet gecaeetaea caageageca 900 aaacaggccc agagctgatc caggtatcca aaggcaagat ccttcaggag 950 ctgccttcca gaaacctgtt ggagcggatg tcagcctggg acttgttcca 1000 aaagaagaat tgagcacaca gtctttggag ccagtatccc tgggagatcc 1050 aaactgcaaa attgacttgt cgtttttaat tgatgggagc accagcattg 1100 gcaaacggcg attccgaatc cagaagcagc tcctggctga tgttgcccaa 1150 gctcttgaca ttggccctgc cggtccactg atgggtgttg tccagtatgg 1200 agacaaccct gctactcact ttaacctcaa gacacacacg aattctcgag 1250 atctgaagac agccatagag aaaattactc agagaggagg actttctaat 1300 gtaggtcggg ccatctcctt tgtgaccaag aacttctttt ccaaagccaa 1350 tqqaaacaqa aqcqgqqctc ccaatgtggt ggtggtgatg gtggatggct 1400 ggcccacgga caaagtggag gaggcttcaa gacttgcgag agagtcagga 1450 atcaacattt tcttcatcac cattgaaggt gctgctgaaa atgagaagca 1500 qtatqtqqtq qaqcccaact ttgcaaacaa ggccgtgtgc agaacaaacg 1550 gcttctactc gctccacgtg cagagctggt ttggcctcca caagaccctg 1600 cagectetgg tgaagegggt etgegaeact gaeegeetgg eetgeageaa 1650 gacctgcttg aactcggctg acattggctt cgtcatcgac ggctccagca 1700 gtgtggggac gggcaacttc cgcaccgtcc tccagtttgt gaccaacctc 1750 accaaagagt ttgagatttc cgacacggac acgcgcatcg gggccgtgca 1800 gtacacctac gaacagcggc tggagtttgg gttcgacaag tacagcagca 1850 agcctgacat cctcaacgcc atcaagaggg tgggctactg gagtggtggc 1900 accagcacgg gggctgccat caacttcgcc ctggagcagc tcttcaagaa 1950 qtccaaqccc aacaaqaqqa aqttaatqat cctcatcacc gacgggaggt 2000 cctacgacga cgtccggatc ccagccatgg ctgcccatct gaagggagtg 2050 atcacctatg cgataggcgt tgcctgggct gcccaagagg agctagaagt 2100 cattqccact cacccqcca qaqaccactc cttctttgtg gacgagtttg 2150 acaacctcca tcagtatgtc cccaggatca tccagaacat ttgtacagag 2200 ttcaactcac agcctcggaa ctgaattcag agcaggcaga gcaccagcaa 2250 qtqctqcttt actaactgac gtgttggacc accccaccgc ttaatggggc 2300 acgcacggtg catcaagtct tgggcagggc atggagaaac aaatgtcttg 2350 ttattattct ttgccatcat gctttttcat attccaaaac ttggagttac 2400 aaagatgatc acaaacgtat agaatgagcc aaaaggctac atcatgttga 2450 gggtgctgga gattttacat tttgacaatt gttttcaaaa taaatgttcg 2500 gaatacagtg cagcccttac gacaggctta cgtagagctt ttgtgagatt 2550 tttaagttgt tatttctgat ttgaactctg taaccctcag caagtttcat 2600 ttttgtcatg acaatgtagg aattgctgaa ttaaatgttt agaaggatga 2650 aaaaaaaaa aaaaaaaaaa aag 2773

<210> 179

<211> 678 <212> PRT

<213> Homo sapiens

<400> 179 Met Arg Thr Val Val Leu Thr Met Lys Ala Ser Val Ile Glu Met Phe Leu Val Leu Leu Val Thr Gly Val His Ser Asn Lys Glu Thr Ala Lys Lys Ile Lys Arg Pro Lys Phe Thr Val Pro Gln Ile Asn Cys Asp Val Lys Ala Gly Lys Ile Ile Asp Pro Glu Phe Ile Val Lys Cys Pro Ala Gly Cys Gln Asp Pro Lys Tyr His Val Tyr Gly Thr Asp Val Tyr Ala Ser Tyr Ser Ser Val Cys Gly Ala Ala Val His Ser Gly Val Leu Asp Asn Ser Gly Gly Lys Ile Leu Val Arg Lys Val Ala Gly Gln Ser Gly Tyr Lys Gly Ser Tyr Ser Asn Gly 110 Val Gln Ser Leu Ser Leu Pro Arg Trp Arg Glu Ser Phe Ile Val 130 125 Leu Glu Ser Lys Pro Lys Lys Gly Val Thr Tyr Pro Ser Ala Leu Thr Tyr Ser Ser Ser Lys Ser Pro Ala Ala Gln Ala Gly Glu Thr 155 Thr Lys Ala Tyr Gln Arg Pro Pro Ile Pro Gly Thr Thr Ala Gln 175 170 Pro Val Thr Leu Met Gln Leu Leu Ala Val Thr Val Ala Val Ala Thr Pro Thr Thr Leu Pro Arg Pro Ser Pro Ser Ala Ala Ser Thr 210 Thr Ser Ile Pro Arg Pro Gln Ser Val Gly His Arg Ser Gln Glu Met Asp Leu Trp Ser Thr Ala Thr Tyr Thr Ser Ser Gln Asn Arg Pro Arg Ala Asp Pro Gly Ile Gln Arg Gln Asp Pro Ser Gly Ala Ala Phe Gln Lys Pro Val Gly Ala Asp Val Ser Leu Gly Leu Val 265 Pro Lys Glu Glu Leu Ser Thr Gln Ser Leu Glu Pro Val Ser Leu Gly Asp Pro Asn Cys Lys Ile Asp Leu Ser Phe Leu Ile Asp Gly

				290					295					300
Ser	Thr	Ser	Ile	Gly 305	Lys	Arg	Arg	Phe	Arg 310	Ile	Gln	Lys	Gln	Leu 315
Leu	Ala	Asp	Val	Ala 320	Gln	Ala	Leu	Asp.	Ile 325	Gly	Pro	Ala	Gly	Pro 330
Leu	Met	Gly	Val	Val 335	Gln	Tyr	Gly	Asp	Asn 340	Pro	Ala	Thr	His	Phe 345
Asn	Leu	Lys	Thr	His 350	Thr	Asn	Ser	Arg	Asp 355	Leu	Lys	Thr	Ala	Ile 360
Glu	Lys	Ile	Thr	Gln 365	Arg	Gly	Gly	Leu	Ser 370	Asn	Val	Gly	Arg	Ala 375
Ile	Ser	Phe	Val	Thr 380	Lys	Asn	Phe	Phe	Ser 385	Lys	Ala	Asn	Gly	Asn 390
Arg	Ser	Gly	Ala	Pro 395	Asn	Val	Val	Val	Val 400	Met	Val	Asp	Gly	Trp 405
Pro	Thr	Asp	Lys	Val 410	Glu	Glu	Ala	Ser	Arg 415	Leu	Ala	Arg	Glu	Ser 420
Gly	Ile	Asn	Ile	Phe 425	Phe	Ile	Thr	Ile	Glu 430	Gly	Ala	Ala	Glu	Asn 435
Glu	Lys	Gln	Tyr	Val 440	Val	Glu	Pro	Asn	Phe 445	Ala	Asn	Lys	Ala	Val 450
Cys	Arg	Thr	Asn	Gly 455	Phe	Tyr	Ser	Leu	His 460	Val	Gln	Ser	Trp	Phe 465
Gly	Leu	His	Lys	Thr 470	Leu	Gln	Pro	Leu	Val 475	Lys	Arg	Val	Суз	Asp 480
Thr	Asp	Arg	Leu	Ala 485	Cys	Ser	Lys	Thr	Cys 490	Leu	Asn	Ser	Ala	Asp 495
Ile	Gly	Phe	Val	Ile 500	Asp	Gly	Ser	Ser	Ser 505	Val	Gly	Thr	Gly	Asn 510
Phe	Arg	Thr	Val	Leu 515	Gln	Phe	Val	Thr	Asn 520	Leu	Thr	Lys	Glu	Phe 525
Glu	Ile	Ser	Asp	Thr 530	Asp	Thr	Arg	Ile	Gly 535	Ala	Val	Gln	Tyr	Thr 540
Tyr	Glu	Gln	Arg	Leu 545	Glu	Phe	Gly	Phe	Asp 550	Lys	Tyr	Ser	Ser	Lys 555
Pro	Asp	Ile	Leu	Asn 560	Ala	Ile	Lys	Arg	Val 565	Gly	Tyr	Trp	Ser	Gly 570
Gly	Thr	Ser	Thr	Gly 575	Ala	Ala	Ile	Asn	Phe 580	Ala	Leu	Glu	Gln	Leu 585
Phe	Lys	Lys	Ser	Lys 590	Pro	Asn	Lys	Arg	Lys 595	Leu	Met	Ile	Leu	Ile 600
Thr	Asp	Gly	Arg	Ser	Tyr	Asp	Asp	Val	Arg	Ile	Pro	Ala	Met	Ala

Ala His Leu Lys Gly Val Ile Thr Tyr Ala Ile Gly Val Ala Trp 630

Ala Ala Gln Glu Glu Leu Glu Val Ile Ala Thr His Pro Ala Arg 645

Asp His Ser Phe Phe Val Asp Glu Phe Asp Asn Leu His Gln Tyr 660

Val Pro Arg Ile Ile Gln Asn Ile Cys Thr Glu Phe Asn Ser Gln 675

Pro Arg Asn

<210> 180 <211> 1759 <212> DNA

<213> Homo sapiens

<400> 180 caggatgaac tggttgcagt ggctgctgct gctgcggggg cgctgagagg 50 acacgagete tatgeettte eggetgetea teeegetegg eeteetgtge 100 gcgctgctgc ctcagcacca tggtgcgcca ggtcccgacg gctccgcgcc 150 agatcccgcc cactacagtt tttctctgac tctaattgat gcactggaca 200 ccttgctgat tttggggaat gtctcagaat tccaaagagt ggttgaagtg 250 ctccaggaca gcgtggactt tgatattgat gtgaacgcct ctgtgtttga 300 aacaaacatt cgagtggtag gaggactcct gtctgctcat ctgctctcca 350 agaaggetgg ggtggaagta gaggetggat ggeeetgtte egggeetete 400 ctgagaatgg ctgaggaggc ggcccgaaaa ctcctcccag cctttcagac 450 ccccactggc atgccatatg gaacagtgaa cttacttcat ggcgtgaacc 500 caggagagac ccctgtcacc tgtacggcag ggattgggac cttcattgtt 550 gaatttgcca ccctgagcag cctcactggt gacccggtgt tcgaagatgt 600 ggccagagtg gctttgatgc gcctctggga gagccggtca gatatcgggc 650 tggtcggcaa ccacattgat gtgctcactg gcaagtgggt ggcccaggac 700 gcaggcatcg gggctggcgt ggactcctac tttgagtact tggtgaaagg 750 agccatcctg cttcaggata agaagctcat ggccatgttc ctagagtata 800 acaaagccat ccggaactac acccgcttcg atgactggta cctgtgggtt 850 cagatgtaca aggggactgt gtccatgcca gtcttccagt ccttggaggc 900 ctactggcct ggtcttcaga gcctcattgg agacattgac aatgccatga 950 ggaccttcct caactactac actgtatgga agcagtttgg ggggctcccg 1000 qaattctaca acattcctca gggatacaca gtggagaagc gagagggcta 1050 cccacttcgg ccagaactta ttgaaagcgc aatgtacctc taccgtgcca 1100 cgggggatcc caccetecta gaacteggaa gagatgetgt ggaatecatt 1150 gaaaaaatca gcaaggtgga gtgcggattt gcaacaatca aagatctgcg 1200 agaccacaag ctggacaacc gcatggagtc gttcttcctg gccgagactg 1250 tgaaatacct ctacctcctg tttgacccaa ccaacttcat ccacaacaat 1300 gggtccacct tcgacgcggt gatcaccccc tatggggagt gcatcctggg 1350 ggctgggggg tacatcttca acacagaagc tcaccccatc gaccttgccg 1400 ccctgcactg ctgccagagg ctgaaggaag agcagtggga ggtggaggac 1450 ttgatgaggg aattctactc tctcaaacgg agcaggtcga aatttcagaa 1500 aaacactgtt agttcggggc catgggaacc tccagcaagg ccaggaacac 1550 tcttctcacc agaaaaccat gaccaggcaa gggagaggaa gcctgccaaa 1600 cagaaggtcc cacttctcag ctgccccagt cagcccttca cctccaagtt 1650 ggcattactg ggacaggttt tcctagactc ctcataacca ctggataatt 1700 tttttatttt tatttttttg aggctaaact ataataaatt gcttttggct 1750 atcataaaa 1759

<210> 181

<211> 541

<212> PRT

<213> Homo sapiens

<400> 181

Met Pro Phe Arg Leu Leu Ile Pro Leu Gly Leu Leu Cys Ala Leu 1 5 10 15

Leu Pro Gln His His Gly Ala Pro Gly Pro Asp Gly Ser Ala Pro $20 \\ 25 \\ 30$

Asp Pro Ala His Tyr Ser Phe Ser Leu Thr Leu Ile Asp Ala Leu 35 40 45

Asp Thr Leu Leu Ile Leu Gly Asn Val Ser Glu Phe Gln Arg Val 50 55 60

Val Glu Val Leu Gln Asp Ser Val Asp Phe Asp Ile Asp Val Asn
65 70 75

Ala Ser Val Phe Glu Thr Asn Ile Arg Val Val Gly Gly Leu Leu 80 85 90

Ser Ala His Leu Leu Ser Lys Lys Ala Gly Val Glu Val Glu Ala 95 100 105

Gly Trp Pro Cys Ser Gly Pro Leu Leu Arg Met Ala Glu Glu Ala 110 115 120

Ala Arg Lys Leu Leu Pro Ala Phe Gln Thr Pro Thr Gly Met Pro

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Tyr Gly Th	r Val Asn 140		eu His	Gly	Val 145	Asn	Pro	Gly	Glu	Thr 150
Pro Val Th	r Cys Thr 155	Ala G	ly Ile	Gly	Thr 160	Phe	Ile	Val	Glu	Phe 165
Ala Thr Le	u Ser Ser 170		nr Gly	Asp	Pro 175	Val	Phe	Glu	Asp	Val 180
Ala Arg Va	l Ala Leu 185	Met A	rg Leu	Trp	Glu 190	Ser	Arg	Ser	Asp	Ile 195
Gly Leu Va	l Gly Asn 200	His I	le Asp	Val	Leu 205	Thr	Gly	Lys	Trp	Val 210
Ala Gln As	p Ala Gly 215	Ile G	ly Ala	Gly	Val 220	Asp	Ser	Tyr	Phe	Glu 225
Tyr Leu Va	l Lys Gly 230		le Leu	Leu	Gln 235	Asp	Lys	Lys	Leu	Met 240
Ala Met Ph	e Leu Glu 245		sn Lys	Ala	Ile 250	Arg	Asn	Tyr	Thr	Arg 255
Phe Asp As	p Trp Tyr 260		rp Val	Gln	Met 265	Tyr	Lys	Gly	Thr	Val 270
Ser Met Pr	o Val Phe 275		er Leu	Glu	Ala 280	Tyr	Trp	Pro	Gly	Leu 285
Gln Ser Le	u Ile Gly 290		le Asp	Asn	Ala 295	Met	Arg	Thr	Phe	Leu 300
Asn Tyr Ty	r Thr Val 305		ys Gln	Phe	Gly 310	Gly	Leu	Pro	Glu	Phe 315
Tyr Asn Il	e Pro Gln 320		yr Thr	Val	Glu 325	Lys	Arg	Glu	Gly	Tyr 330
Pro Leu Ar	g Pro Glu 335		le Glu	Ser	Ala 340	Met	Tyr	Leu	Tyr	Arg 345
Ala Thr Gl	y Asp Pro 350		eu Leu	Glu	Leu 355	Gly	Arg	Asp	Ala	Val 360
Glu Ser Il	e Glu Lys 365		er Lys	Val	Glu 370	Cys	Gly	Phe	Ala	Thr 375
Ile Lys As	p Leu Arg 380		is Lys	Leu	Asp 385	Asn	Arg	Met	Glu	Ser 390
Phe Phe Le	u Ala Glu 395		al Lys	Tyr	Leu 400	Tyr	Leu	Leu	Phe	Asp 405
Pro Thr As	n Phe Ile 410		sn Asn	Gly	Ser 415	Thr	Phe	Asp	Ala	Val 420
Ile Thr Pr	o Tyr Gly 425		ys Ile	Leu	Gly 430	Ala	Gly	Gly	Tyr	Ile 435
Phe Asn Th	r Glu Ala	His P	ro Ile	Asp	Leu	Ala	Ala	Leu	His	Суз

Cys Gln Arg Leu Lys Glu Glu Gln Trp Glu Val Glu Asp Leu Met 465

Arg Glu Phe Tyr Ser Leu Lys Arg Ser Arg Ser Lys Phe Gln Lys 480

Asn Thr Val Ser Ser Gly Pro Trp Glu Pro Pro Ala Arg Pro Gly 495

Thr Leu Phe Ser Pro Glu Asn His Asp Gln Ala Arg Glu Arg Lys 510

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 Glu Val Ala Ile Leu Pro Ala Pro Gln Asn Leu Ser Val Leu Ser
 Thr Asn Met Lys His Leu Leu Met Trp Ser Pro Val Ile Ala Pro
 Gly Glu Thr Val Tyr Tyr Ser Val Glu Tyr Gln Gly Glu Tyr Glu
 Ser Leu Tyr Thr Ser His Ile Trp Ile Pro Ser Ser Trp Cys Ser
 Leu Thr Glu Gly Pro Glu Cys Asp Val Thr Asp Asp Ile Thr Ala
 Thr Val Pro Tyr Asn Leu Arg Val Arg Ala Thr Leu Gly Ser Gln
                                      115
                 110
 Thr Ser Ala Trp Ser Ile Leu Lys His Pro Phe Asn Arg Asn Ser
 Thr Ile Leu Thr Arg Pro Gly Met Glu Ile Thr Lys Asp Gly Phe
 His Leu Val Ile Glu Leu Glu Asp Leu Gly Pro Gln Phe Glu Phe
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                  155
 Leu Val Ala Tyr Trp Arg Arg Glu Pro Gly Ala Glu Glu His Val
 Lys Met Val Arg Ser Gly Gly Ile Pro Val His Leu Glu Thr Met
                                                          195
                                      190
                  185
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                                      205
                  200
 Ala Ile Gly Arg Tyr Ser Ala Phe Ser Gln Thr Glu Cys Val Glu
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220

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Lys Met Gly Arg Leu Leu Gln Tyr Ser Cys Cys Pro Val Val Val
                                                        270
                                    265
Leu Pro Asp Thr Leu Lys Ile Thr Asn Ser Pro Gln Lys Leu Ile
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caataaaaac ttgcatcaa catgaattc cagccgatga taatccaggc 1100
caaaggttta gttgttgta tttcctctgt attatttct tcattacaaa 1150
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<211> 187

<212> PRT

<213> Homo sapiens

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Val Asn Ile Arg Gly Lys Leu Val Ser Leu Glu Lys Tyr Arg Gly
35 40 40

Ser Val Ser Leu Val Val As
n Val Ala Ser Glu Cys Gly Phe Thr $50 \hspace{1.5cm} 55 \hspace{1.5cm} 60$

Asp Gln His Tyr Arg Ala Leu Gln Gln Leu Gln Arg Asp Leu Gly 65 70 75

Pro His His Phe Asn Val Leu Ala Phe Pro Cys Asn Gln Phe Gly 80 85 90

Gln Gln Glu Pro Asp Ser Asn Lys Glu Ile Glu Ser Phe Ala Arg 95 100 105

Arg Thr Tyr Ser Val Ser Phe Pro Met Phe Ser Lys Ile Ala Val 110 115 120

Thr Gly Thr Gly Ala His Pro Ala Phe Lys Tyr Leu Ala Gln Thr 125 130 135

Ser Gly Lys Glu Pro Thr Trp Asn Phe Trp Lys Tyr Leu Val Ala 140 145 150

Pro Asp Gly Lys Val Val Gly Ala Trp Asp Pro Thr Val Ser Val

155 160 165

Glu Glu Val Arg Pro Gln Ile Thr Ala Leu Val Arg Lys Leu Ile 170 175 180

Leu Leu Lys Arg Glu Asp Leu 185

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<223> Synthetic oligonucleotide probe

<400> 191

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<211> 50

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<210> 193

<211> 2187

<212> DNA

<213> Homo sapiens

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ccatcggagg cctcagctac gttcaggggt gcaccaaaaa gcatcttaac 250
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<213> Homo sapiens

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35 40 45

Glu Val Asp Arg Met Val Ser Thr Pro Ile Gly Gly Leu Ser Tyr
50 55 60

Val Gln Gly Cys Thr Lys Lys His Leu Asn Ser Lys Thr Val Gly
65 70 75

Gln Cys Leu Glu Thr Thr Ala Gln Arg Val Pro Glu Arg Glu Ala 80 85 90

Leu Val Val Leu His Glu Asp Val Arg Leu Thr Phe Ala Gln Leu 95 100 105

Lys Glu Glu Val Asp Lys Ala Ala Ser Gly Leu Leu Ser Ile Gly 110 115 120

Leu Cys Lys Gly Asp Arg Leu Gly Met Trp Gly Pro Asn Ser Tyr 125 130 135

Ala Trp Val Leu Met Gln Leu Ala Thr Ala Gln Ala Gly Ile Ile 140 145 150

Leu Val Ser Val Asn Pro Ala Tyr Gln Ala Met Glu Leu Glu Tyr 155 160 165

Val Leu Lys Lys Val Gly Cys Lys Ala Leu Val Phe Pro Lys Gln 170 175

Phe Lys Thr Gln Gln Tyr Tyr Asn Val Leu Lys Gln Ile Cys Pro 185 190 195

Glu Val Glu Asn Ala Gln Pro Gly Ala Leu Lys Ser Gln Arg Leu 200 205 210

Pro Asp Leu Thr Thr Val Ile Ser Val Asp Ala Pro Leu Pro Gly 215 220 225

Thr Leu Leu Leu Asp Glu Val Val Ala Ala Gly Ser Thr Arg Gln 230 235 240

His Leu Asp Gln Leu Gln Tyr Asn Gln Gln Phe Leu Ser Cys His

HEILING PUR

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Ile	Leu	Gly	Glu	Arg 290	Leu	Lys	Leu	His	Glu 295	Lys	Thr	Pro	Glu	Gln 300
Leu	Arg	Met	Ile	Leu 305	Pro	Asn	Pro	Leu	Tyr 310	His	Cys	Leu	Gly	Ser 315
Val	Ala	Gly	Thr	Met 320	Met	Cys	Leu	Met	Tyr 325	Gly	Ala	Thr	Leu	Ile 330
Leu	Ala	Ser	Pro	Ile 335	Phe	Asn	Gly	Lys	Lys 340	Ala	Leu	Glu	Ala	Ile 345
Ser	Arg	Glu	Arg	Gly 350	Thr	Phe	Leu	Tyr	Gly 355	Thr	Pro	Thr	Met	Phe 360
Val	Asp	Ile	Leu	Asn 365	Gln	Pro	Asp	Phe	Ser 370	Ser	Tyr	Asp	Ile	Ser 375
Thr	Met	Cys	Gly	Gly 380	Val	Ile	Ala	Gly	Ser 385	Pro	Ala	Pro	Pro	Glu 390
Leu	Ile	Arg	Ala	Ile 395	Ile	Asn	Lys	Ile	Asn 400	Met	Lys	Asp	Leu	Val 405
Val	Ala	Tyr	Gly	Thr 410	Thr	Glu	Asn	Ser	Pro 415	Val	Thr	Phe	Ala	His 420
Phe	Pro	Glu	Asp	Thr 425	Val	Glu	Gln	Lys	Ala 430	Glu	Ser	Val	Gly	Arg 435
Ile	Met	Pro	His	Thr 440	Glu	Ala	Arg	Ile	Met 445	Asn	Met	Glu	Ala	Gly 450
Thr	Leu	Ala	Lys	Leu 455	Asn	Thr	Pro	Gly	Glu 460	Leu	Cys	Ile	Arg	Gly 465
Tyr	Cys	Val	Met	Leu 470	Gly	Tyr	Trp	Gly	Glu 475	Pro	Gln	Lys	Thr	Glu 480
Glu	Ala	Val	Asp	Gln 485	Asp	Lys	Trp	Tyr	Trp 490	Thr	Gly	Asp	Val	Ala 495
Thr	Met	Asn	Glu	Gln 500	Gly	Phe	Cys	Lys	Ile 505	Val	Gly	Arg	Ser	Lys 510
Asp	Met	Ile	Ile	Arg 515	Gly	Gly	Glu	Asn	Ile 520	Tyr	Pro	Ala	Glu	Leu 525
Glu	Asp	Phe	Phe	His 530	Thr	His	Pro	Lys	Val 535	Gln	Glu	Val	Gln	Val 540
Val	Gly	Val	Lys	Asp 545	Asp	Arg	Met	Gly	Glu 550	Glu	Ile	Cys	Ala	Cys 555
Ile	Arg	Leu	Lys	Asp	Gly	Glu	Glu	Thr	Thr	Val	Glu	Glu	Ile	Lys

570 560 565 Ala Phe Cys Lys Gly Lys Ile Ser His Phe Lys Ile Pro Lys Tyr Ile Val Phe Val Thr Asn Tyr Pro Leu Thr Ile Ser Gly Lys Ile Gln Lys Phe Lys Leu Arg Glu Gln Met Glu Arg His Leu Asn Leu 615 610 <210> 195 <211> 642 <212> DNA <213> Homo sapiens <400> 195 caactccaac attttaggag agcgcctgaa actgcatgag aagacaccag 50 agcagttgcg gatgatcctg cccaaccccc tgtaccattg cctgggttcc 100 gtggcaggca caatgatgtg tctgatgtac ggtgccaccc tcatcctggc 150 ctctcccatc ttcaatqqca aqaaqqcact qqaqqccatc aqcaqaqaqa 200 gaggcacctt cctgtatggt acccccacga tgttcgtgga cattctgaac 250 cagccagact tetecagtta tgacateteg accatgtgtg gaggtgteat 300 tgctgggtcc cctgcacctc cagagttgat ccgagccatc atcaacaaga 350 taaatatgaa ggacctggtg gttgcttatg gaaccacaga gaacagtccc 400 gtgacattcg cgcacttccc tgaggacact gtggagcaga aggcagaaag 450 cgtgggcaga attatgcctc acacggaggc gcggatcatg aacatggagg 500 cagggacgct ggcaaagctg aacacgcccg gggagctgtg catccgaggg 550 tactgcgtca tgctgggcta ctggggtgag cctcagaaga cagaggaagc 600 agtggatcag gacaagtggt attggacagg agatgtcgcc ac 642 <210> 196 <211> 1575 <212> DNA <213> Homo sapiens <400> 196 gagcaggacg gagccatgga ccccgccagg aaagcaggtg cccaggccat 50

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<210> 197

<211> 346

<212> PRT

<213> Homo sapiens

<400> 197

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Ala Gly Trp Leu Leu Leu Leu Leu Leu Arg Gly Gly Ala Gln Ala 20 25 30

Pro Asn Lys Met Lys Thr Val Lys Cys Ala Pro Gly Val Asp Val 50 55 60

Cys Thr Glu Ala Val Gly Ala Val Glu Thr Ile His Gly Gln Phe 6570

Ser Leu Ala Val Arg Gly Cys Gly Ser Gly Leu Pro Gly Lys Asn 80 85 90

Asp Arg Gly Leu Asp Leu His Gly Leu Leu Ala Phe Ile Gln Leu 95 $$ 100 $$ 105

Gln Gln Cys Ala Gln Asp Arg Cys Asn Ala Lys Leu Asn Leu Thr 110 115 120

Ser Arg Ala Leu Asp Pro Ala Gly Asn Glu Ser Ala Tyr Pro Pro 125 130 135

Asn Gly Val Glu Cys Tyr Ser Cys Val Gly Leu Ser Arg Glu Ala 140 145 150

Cys Gln Gly Thr Ser Pro Pro Val Val Ser Cys Tyr Asn Ala Ser 155 160 165

Asp His Val Tyr Lys Gly Cys Phe Asp Gly Asn Val Thr Leu Thr 170 175 180

Ala Ala Asn Val Thr Val Ser Leu Pro Val Arg Gly Cys Val Gln 185 190 195

Asp Glu Phe Cys Thr Arg Asp Gly Val Thr Gly Pro Gly Phe Thr 200 205 210

Leu Ser Gly Ser Cys Cys Gln Gly Ser Arg Cys Asn Ser Asp Leu 215 220 225

Arg Asn Lys Thr Tyr Phe Ser Pro Arg Ile Pro Pro Leu Val Arg 230 235 240

Leu Pro Pro Pro Glu Pro Thr Thr Val Ala Ser Thr Thr Ser Val 245 250 255

Thr Thr Ser Thr Ser Ala Pro Val Arg Pro Thr Ser Thr Thr Lys 260 265 270

Pro Met Pro Ala Pro Thr Ser Gln Thr Pro Arg Gln Gly Val Glu 275 280 285

His Glu Ala Ser Arg Asp Glu Glu Pro Arg Leu Thr Gly Gly Ala 290 295 300

Ala Gly His Gln Asp Arg Ser Asn Ser Gly Gln Tyr Pro Ala Lys 305 310

Gly Gly Pro Gln Gln Pro His Asn Lys Gly Cys Val Ala Pro Thr 320 325 325

Ala Gly Leu Ala Ala Leu Leu Leu Ala Val Ala Ala Gly Val Leu 335 340 345

Leu

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- <210> 199
- <211> 120
- <212> PRT
- <213> Homo sapiens
- <400> 199

Met Glu Leu Val Leu Val Phe Leu Cys Ser Leu Leu Ala Pro Met
1 5 10 15

Val Leu Ala Ser Ala Ala Glu Lys Glu Lys Glu Met Asp Pro Phe 20 25 30

His Tyr Asp Tyr Gln Thr Leu Arg Ile Gly Gly Leu Val Phe Ala 35 40 45

Val Val Leu Phe Ser Val Gly Ile Leu Leu Ile Leu Ser Arg Arg
50 55 60

Cys Lys Cys Ser Phe Asn Gln Lys Pro Arg Ala Pro Gly Asp Glu 65 70 75

Glu Ala Gln Val Glu Asn Leu Ile Thr Ala Asn Ala Thr Glu Pro $80 \hspace{1cm} 85 \hspace{1cm} 90$

Gln Lys Gln Arg Thr Glu Val Gln Pro Ser Gly Gly Ser Leu Trp 95 100 105

Asn Leu Arg Arg Leu Leu Glu Pro Leu Asp Ala Asn Val Asp Ala 110 115 120

- <210> 200
- <211> 415
- <212> DNA
- <213> Homo sapiens
- <400> 200

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cattttccat ccaaa 415
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- <210> 201
- <211> 99
- <212> PRT
- <213> Homo sapiens

<400> 201

- Met Lys Ile Pro Val Leu Pro Ala Val Val Leu Leu Ser Leu Leu 1 5 10 15
- Val Leu His Ser Ala Gln Gly Ala Thr Leu Gly Gly Pro Glu Glu 20 25 30
- Glu Ser Thr Ile Glu Asn Tyr Ala Ser Arg Pro Glu Ala Phe Asn 35 40 45
- Thr Pro Phe Leu Asn Ile Asp Lys Leu Arg Ser Ala Phe Lys Ala 50 55 60
- Asp Glu Phe Leu Asn Trp His Ala Leu Phe Glu Ser Ile Lys Arg 65 70 75
- Lys Leu Pro Phe Leu Asn Trp Asp Ala Phe Pro Lys Leu Lys Gly 80 85 90
- Leu Arg Ser Ala Thr Pro Asp Ala Gln 95
- <210> 202
- <211> 678
- <212> DNA
- <213> Homo sapiens

<400> 202

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<210> 203
<211> 52
<212> PRT
<213> Homo sapiens
<400> 203
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 Ser Leu Leu Ala Ala Gly Val Ser Gln Val Val Leu Leu Gln Pro
 Val Pro Thr Gln Glu Thr Gly Pro Lys Ala Met Gly Asp Leu Ser
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 Cys Gly Phe Ala Gly His Ser
                  50
<210> 204
<211> 1917
<212> DNA
<213> Homo sapiens
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<210> 205

<211> 392

<212> PRT

<213> Homo sapiens

<400> 205

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Phe Leu Leu Pro Ser Ala Gln Gly Arg Gln Lys Glu Ser Gly Ser 20 25 30

Lys Trp Lys Val Phe Ile Asp Gln Ile Asn Arg Ser Leu Glu Asn 35 40 45

Tyr Glu Pro Cys Ser Ser Gln Asn Cys Ser Cys Tyr His Gly Val
50 55 60

Ile Glu Glu Asp Leu Thr Pro Phe Arg Gly Gly Ile Ser Arg Lys
65 70 75

Met Met Ala Glu Val Val Arg Arg Lys Leu Gly Thr His Tyr Gln 80 85 90

Ile Thr Lys Asn Arg Leu Tyr Arg Glu Asn Asp Cys Met Phe Pro

				95					100					105
Ser	Arg	Суз	Ser	Gly 110	Val	Glu	His	Phe	Ile 115	Leu	Glu	Val	Ile	Gly 120
Arg	Leu	Pro	Asp	Met 125	Glu	Met	Val	Ile	Asn 130	Val	Arg	Asp	Tyr	Pro 135
Gln	Val	Pro	Lys	Trp 140	Met	Glu	Pro	Ala	Ile 145	Pro	Val	Phe	Ser	Phe 150
Ser	Lys	Thr	Ser	Glu 155	Tyr	His	Asp	Ile	Met 160	Tyr	Pro	Ala	Trp	Thr 165
Phe	Trp	Glu	Gly	Gly 170	Pro	Ala	Val	Trp	Pro 175	Ile	Tyr	Pro	Thr	Gly 180
Leu	Gly	Arg	Trp	Asp 185	Leu	Phe	Arg	Glu	Asp 190	Leu	Val	Arg	Ser	Ala 195
Ala	Gln	Trp	Pro	Trp 200	Lys	Lys	Lys	Asn	Ser 205	Thr	Ala	Tyr	Phe	Arg 210
Gly	Ser	Arg	Thr	Ser 215	Pro	Glu	Arg	Asp	Pro 220	Leu	Ile	Leu	Leu	Ser 225
Arg	Lys	Asn	Pro	Lys 230	Leu	Val	Asp	Ala	Glu 235	Tyr	Thr	Lys	Asn	Gln 240
Ala	Trp	Lys	Ser	Met 245	Lys	Asp	Thr	Leu	Gly 250	Lys	Pro	Ala	Ala	Lys 255
Asp	Val	His	Leu	Val 260	Asp	His	Cys	Lys	Tyr 265	Lys	Tyr	Leu	Phe	Asn 270
Phe	Arg	Gly	Val	Ala 275	Ala	Ser	Phe	Arg	Phe 280	Lys	His	Leu	Phe	Leu 285
Суѕ	Gly	Ser	Leu	Val 290	Phe	His	Val	Gly	Asp 295	Glu	Trp	Leu	Glu	Phe 300
Phe	Tyr	Pro	Gln	Leu 305		Pro	Trp	Val	His 310	Tyr	Ile	Pro	Val	Lys 315
Thr	Asp	Leu	Ser	Asn 320		Gln	Glu	Leu	Leu 325	Gln	Phe	Val	Lys	Ala 330
Asn	Asp	Asp	Val	Ala 335		Glu	Ile	Ala	Glu 340	Arg	Gly	Ser	Gln	Phe 345
Ile	Arg	Asn	His	Leu 350		Met	Asp	Asp	Ile 355	Thr	Cys	Tyr	Trp	Glu 360
Asn	Leu	Leu	Ser	Glu 365		Ser	Lys	Phe	Leu 370	Ser	Tyr	Asn	Val	Thr 375
Arg	Arg	Lys	Gly	Tyr 380		Gln	Ile	Ile	Pro 385	Lys	Met	Leu	Lys	Thr 390
Glu	Leu													

<210> 206

- <211> 1425 <212> DNA
- <213> Homo sapiens

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<210> 207

<212> DNA

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<211> 262
<212> PRT
<213> Homo sapiens
<400> 207
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 Ile Leu Ala Phe Gly Thr Gly Val Glu Phe Val Arg Phe Thr Ser
 Leu Arg Pro Leu Leu Gly Gly Ile Pro Glu Ser Gly Gly Pro Asp
Ala Arg Gln Gly Trp Leu Ala Ala Leu Gln Asp Arg Ser Ile Leu
 Ala Pro Leu Ala Trp Asp Leu Gly Leu Leu Leu Phe Val Gly
 Gln His Ser Leu Met Ala Ala Glu Arg Val Lys Ala Trp Thr Ser
                                      85
 Arg Tyr Phe Gly Val Leu Gln Arg Ser Leu Tyr Val Ala Cys Thr
 Ala Leu Ala Leu Gln Leu Val Met Arg Tyr Trp Glu Pro Ile Pro
                                                          120
 Lys Gly Pro Val Leu Trp Glu Ala Arg Ala Glu Pro Trp Ala Thr
                 125
 Trp Val Pro Leu Leu Cys Phe Val Leu His Val Ile Ser Trp Leu
 Leu Ile Phe Ser Ile Leu Leu Val Phe Asp Tyr Ala Glu Leu Met
 Gly Leu Lys Gln Val Tyr Tyr His Val Leu Gly Leu Gly Glu Pro
                                      175
 Leu Ala Leu Lys Ser Pro Arg Ala Leu Arg Leu Phe Ser His Leu
 Arg His Pro Val Cys Val Glu Leu Leu Thr Val Leu Trp Val Val
                                      205
 Pro Thr Leu Gly Thr Asp Arg Leu Leu Leu Ala Phe Leu Leu Thr
                 215
 Leu Tyr Leu Gly Leu Ala His Gly Leu Asp Gln Gln Asp Leu Arg
                                      235
 Tyr Leu Arg Ala Gln Leu Gln Arg Lys Leu His Leu Leu Ser Arg
                                                          255
                                      250
 Pro Gln Asp Gly Glu Ala Glu
                 260
<210> 208
<211> 2095
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<210> 209

<211> 331

<212> PRT

<213> Homo sapiens

<400> 209

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Arg Ser Leu Lys Trp Ser Leu Leu Leu Leu Ser Leu Leu Ser Phe 20 25 30

Phe Val Met Trp Tyr Leu Ser Leu Pro His Tyr Asn Val Ile Glu 35 40 45

Arg Val Asn Trp Met Tyr Phe Tyr Glu Tyr Glu Pro Ile Tyr Arg
50 55 60

Gln Asp Phe His Phe Thr Leu Arg Glu His Ser Asn Cys Ser His
65 70 75

Gln Asn Pro Phe Leu Val Ile Leu Val Thr Ser His Pro Ser Asp 80 85 90

Val Lys Ala Arg Gln Ala Ile Arg Val Thr Trp Gly Glu Lys Lys 95 100 105

Ser Trp Trp Gly Tyr Glu Val Leu Thr Phe Phe Leu Leu Gly Gln
110 115 120

Glu Ala Glu Lys Glu Asp Lys Met Leu Ala Leu Ser Leu Glu Asp 125 130 135

Glu His Leu Leu Tyr Gly Asp Ile Ile Arg Gln Asp Phe Leu Asp 140 145 150

Thr Tyr Asn Asn Leu Thr Leu Lys Thr Ile Met Ala Phe Arg Trp
155 160 165

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Val Thr Glu Phe Cys Pro Asn Ala Lys Tyr Val Met Lys Thr Asp
Thr Asp Val Phe Ile Asn Thr Gly Asn Leu Val Lys Tyr Leu Leu
                185
Asn Leu Asn His Ser Glu Lys Phe Phe Thr Gly Tyr Pro Leu Ile
                                                         210
Asp Asn Tyr Ser Tyr Arg Gly Phe Tyr Gln Lys Thr His Ile Ser
                                    220
Tyr Gln Glu Tyr Pro Phe Lys Val Phe Pro Pro Tyr Cys Ser Gly
                230
Leu Gly Tyr Ile Met Ser Arg Asp Leu Val Pro Arg Ile Tyr Glu
Met Met Gly His Val Lys Pro Ile Lys Phe Glu Asp Val Tyr Val
                                                         270
Gly Ile Cys Leu Asn Leu Leu Lys Val Asn Ile His Ile Pro Glu
Asp Thr Asn Leu Phe Phe Leu Tyr Arg Ile His Leu Asp Val Cys
Gln Leu Arg Arg Val Ile Ala Ala His Gly Phe Ser Ser Lys Glu
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Ile Ile Thr Phe Trp Gln Val Met Leu Arg Asn Thr Thr Cys His
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Tyr

<210> 210

<211> 745

<212> DNA

<213> Homo sapiens

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<210> 211

<211> 185

<212> PRT

<213> Homo sapiens

<400> 211

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Ala Pro Ala Leu Ala Asn Tyr Asn Ile Asn Val Asn Asp Asp Asn 20 25 30

Asn Asn Ala Gly Ser Gly Gln Gln Ser Val Ser Val Asn Asn Glu 35 $40 \cdot 45$

His Asn Val Ala Asn Val Asp Asn Asn Gly Trp Asp Ser Trp 50 55 60

Asn Ser Ile Trp Asp Tyr Gly Asn Gly Phe Ala Ala Thr Arg Leu 65 70 75

Phe Gln Lys Lys Thr Cys Ile Val His Lys Met Asn Lys Glu Val 80 85 90

Met Pro Ser Ile Gln Ser Leu Asp Ala Leu Val Lys Glu Lys Lys 95. 100 105

Leu Gln Gly Lys Gly Pro Gly Gly Pro Pro Pro Lys Gly Leu Met 110 115 120

Tyr Ser Val Asn Pro Asn Lys Val Asp Asp Leu Ser Lys Phe Gly 125 130 135

Lys Asn Ile Ala Asn Met Cys Arg Gly Ile Pro Thr Tyr Met Ala 140 145 150

Glu Glu Met Gln Glu Ala Ser Leu Phe Phe Tyr Ser Gly Thr Cys 155 160 165

Tyr Thr Thr Ser Val Leu Trp Ile Val Asp Ile Ser Phe Cys Gly 170 175 180

Asp Thr Val Glu Asn 185

<210> 212

<211> 1706

<212> DNA

<213> Homo sapiens

<400> 212

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atgaaataat ttaaaagggc ttcgctcata tataggaaaa tcgcatatgg 150 tcctagtatt aaattcttat tgcttactga tttttttgag ttaagagttg 200 ttatatgcta gaatatgagg atgtgaatat aaataagaga agaaaaaaga 250 ataaagtaga ttgagtctcc aattttatgt aagcttcaga agaactggtt 300 tgtttacatg caagcttata gttgaaatat ttttcaggaa ttacatgaat 350 gacagtette gaaccaatgt gtttgttega ttteaaccag agactatage 400 atgtgcttgc atctaccttg cagctagagc acttcagatt ccgttgccaa 450 ctcgtcccca ttggtttctt ctttttggta ctacagaaga ggaaatccag 500 gaaatctgca tagaaacact taggctttat accagaaaaa agccaaacta 550 tgaattactg gaaaaagaag tagaaaaaag aaaagtagcc ttacaagaag 600 ccaaattaaa agcaaaggga ttgaatccgg atggaactcc agccctttca 650 accetgggtg gattttctcc agcetccaag ccatcatcac caagagaagt 700 aaaagctgaa gagaaatcac caatctccat taatgtgaag acagtcaaaa 750 aagaacctga ggatagacaa caggcttcca aaagccctta caatggtgta 800 agaaaagaca gcaagagaag tagaaatagc agaagtgcaa gtcgatcgag 850 gtcaagaaca cgatcacgtt ctagatcaca tactccaaga agacactata 900 ataataggcg gagtcgatct ggaacataca gctcgagatc aagaagcagg 950 tcccgcagtc acagtgaaag ccctcgaaga catcataatc atggttctcc 1000 tcaccttaag gccaagcata ccagagatga tttaaaaagt tcaaacagac 1050 atggtcataa aaggaaaaaa tctcgttctc gatctcagag caagtctcgg 1100 gatcactcag atgcagccaa gaaacacagg catgaaaggg gacatcatag 1150 ggacaggcgt gaacgatctc gctcctttga gaggtcccat aaaagcaagc 1200 accatggtgg cagtcgctca ggacatggca ggcacaggcg ctgactttct 1250 cttcctttga gcctgcatca gttcttggtt ttgcctatct acagtgtgat 1300 cttgaaaccc tctaggtctc tagaacactg aggacagttt cttttgaaaa 1400 gaactatgtt aatttttttg cacattaaaa tgccctagca gtatctaatt 1450 aaaaaccatg gtcaggttca attgtacttt attatagttg tgtattgttt 1500 attgctataa gaactggagc gtgaattctg taaaaatgta tcttattttt 1550 atacagataa aattgcagac actgttctat ttaagtggtt atttgtttaa 1600 atgatggtga atactttctt aacactggtt tgtctgcatg tgtaaagatt 1650

aaaagt 1706

<210> 213

<211> 299

<212> PRT

<213> Homo sapiens

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Glu Thr Ile Ala Cys Ala Cys Ile Tyr Leu Ala Ala Arg Ala Leu 20 25 30

Gln Ile Pro Leu Pro Thr Arg Pro His Trp Phe Leu Leu Phe Gly 35 40 45

Thr Thr Glu Glu Glu Ile Gln Glu Ile Cys Ile Glu Thr Leu Arg
50 55 60

Leu Tyr Thr Arg Lys Lys Pro Asn Tyr Glu Leu Leu Glu Lys Glu 65 70 75

Val Glu Lys Arg Lys Val Ala Leu Gln Glu Ala Lys Leu Lys Ala 80 85 90

Lys Gly Leu Asn Pro Asp Gly Thr Pro Ala Leu Ser Thr Leu Gly 95 100 105

Gly Phe Ser Pro Ala Ser Lys Pro Ser Ser Pro Arg Glu Val Lys 110 115 120

Ala Glu Glu Lys Ser Pro Ile Ser Ile Asn Val Lys Thr Val Lys 125 130 135

Lys Glu Pro Glu Asp Arg Gln Gln Ala Ser Lys Ser Pro Tyr Asn 140 145 150

Gly Val Arg Lys Asp Ser Lys Arg Ser Arg Asn Ser Arg Ser Ala 155 160 165

Ser Arg Ser Arg Ser Arg Thr Arg Ser Arg Ser Arg Ser His Thr 170 175 180

Pro Arg Arg His Tyr Asn Asn Arg Arg Ser Arg Ser Gly Thr Tyr 185 190 195

Ser Ser Arg Ser Arg Ser Arg Ser Arg Ser His Ser Glu Ser Pro 200 205 210

Arg Arg His His Asn His Gly Ser Pro His Leu Lys Ala Lys His 215 220 225

Thr Arg Asp Asp Leu Lys Ser Ser Asn Arg His Gly His Lys Arg 230 235 240

Lys Lys Ser Arg Ser Arg Ser Gln Ser Lys Ser Arg Asp His Ser 245 250

Asp Ala Ala Lys Lys His Arg His Glu Arg Gly His His Arg Asp 260 265 270

Arg Arg Glu Arg Ser Arg Ser Phe Glu Arg Ser His Lys Ser Lys

His His Gly Gly Ser Arg Ser Gly His Gly Arg His Arg Arg

<210> 214

<211> 730

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

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<223> unknown base

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tcgcatatgg tcctagtatt aaattnttat tgcttactga tttttttgag 250

ttaagagttg ttatatgnta gaatatgagg atgtgaatat aaataagaga 300

agaaaaaaga ataaagtaga ttgagtctcc aattttatgt aagcttcaga 350

agaactggtt tgtttacatg caagcttata gttgaaatat ttttcaggaa 400

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ccqttqccaa ctngtcccca ttggtttctt ctttttggta ctacagaaga 550

ggaaatccag gaaatntgca tagaaacact taggctttat accagaaaaa 600

agccaaacta tgaattactg gaaaaagaag tagaaaaaag aaaagtagcc 650

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agccctttca accctgggtg gattttctcc 730

<210> 215

<211> 1807

<212> DNA

<213> Homo sapiens

<400> 215

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<210> 216

<211> 479 <212> PRT <213> Homo sapiens

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		290					295					300
Thr Arg P	he Ser	Leu I 305	Leu	Ser	Asp	Ser	Ala 310	Phe	Asp	Ser	Gly	Arg 315
Leu Trp I	eu Leu	Val V 320	Val	Leu	Cys	Leu	Leu 325	Arg	Leu	Ala	Val	Thr 330
Arg Pro H	lis Leu	Gln <i>F</i> 335	Ala	Tyr	Leu	Cys	Leu 340	Ala	Lys	Ala	Arg	Val 345
Glu Gln I	eu Arg	Arg (Glu	Ala	Gly	Arg	Ile 355	Glu	Ala	Arg	Glu	Ile 360
Gln Gln A	arg Val	Val <i>F</i> 365	Arg	Val	Tyr	Cys	Tyr 370	Val	Thr	Val	Val	Ser 375
Leu Gln T	yr Leu	Thr H 380	Pro	Leu	Ile	Leu	Thr 385	Leu	Asn	Cys	Thr	Leu 390
Leu Leu I	ys Thr	Leu (Gly	Gly	Tyr	Ser	Trp 400	Gly	Leu	Gly	Pro	Ala 405
Pro Leu I	eu Ser	Pro <i>P</i>	Asp	Pro	Ser	Ser	Ala 415	Ser	Ala	Ala	Pro	Ile 420
Gly Ser G	Gly Glu	Asp (Glu	Val	Gln	Gln	Thr 430	Ala	Ala	Arg	Ile	Ala 435
Gly Ala I	Leu Gly	Gly I 440	Leu	Leu	Thr	Pro	Leu 445	Phe	Leu	Arg	Gly	Val 450
Leu Ala T	yr Leu	Ile 1 455	ľrp	Trp	Thr	Ala	Ala 460	Cys	Gln	Leu	Leu	Ala 465
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<211> 574 <212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 5, 146

<223> unknown base

<400> 217

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acteggegg egtgtacete tteacagagg ectactacta catgetggga 400 ceagecaagg agactaacat tgetgtgtte tggtgeetge teacagtgae 450 cttetecate aagatgttee tgacagtgae aeggetgtae tteagegeeg 500 aggaggggg tgagegetet gtetgeetea eetttgeett eetetteetg 550 etgetggeea tgetggtgea ageg 574

<210> 218

<211> 2571

<212> DNA

<213> Homo sapiens

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<210> 219

<211> 632

<212> PRT

<213> Homo sapiens

<400> 219

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Leu	Cys	Lys	Gly	Ala 35	Ser	His	Tyr	Gly	Leu 40	Thr	Lys	Asp	Arg	Lys 45
Arg	Arg	Ser	Gln	Asp 50	Gly	Cys	Pro	Asp	Gly 55	Cys	Ala	Ser	Leu	Thr 60
Ala	Thr	Ala	Pro	Ser 65	Pro	Glu	Val	Ser	Ala 70	Ala	Ala	Thr	Ile	Ser 75
Leu	Met	Thr	Asp	Glu 80	Pro	Gly	Leu	Asp	Asn 85	Pro	Ala	Tyr	Val	Ser 90
Ser	Ala	Glu	Asp	Gly 95	Gln	Pro	Ala	Ile	Ser 100	Pro	Val	Asp	Ser	Gly 105
Arg	Ser	Asn	Arg	Thr 110	Arg	Ala	Arg	Pro	Phe 115	Glu	Arg	Ser	Thr	Ile 120
Arg	Ser	Arg	Ser	Phe 125	Lys	Lys	Ile	Asn	Arg 130	Ala	Leu	Ser	Val	Leu 135
Arg	Arg	Thr	Lys	Ser 140	Gly	Ser	Ala	Val	Ala 145	Asn	His	Ala	Asp	Gln 150
Gly	Arg	Glu	Asn	Ser 155	Glu	Asn	Thr	Thr	Ala 160	Pro	Glu	Val	Phe	Pro 165
Arg	Leu	Tyr	His	Leu 170	Ile	Pro	Asp	Gly	Glu 175	Ile	Thr	Ser	Ile	Lys 180
Ile	Asn	Arg	Val	Asp 185	Pro	Ser	Glu	Ser	Leu 190	Ser	Ile	Arg	Leu	Val 195
Gly	Gly	Ser	Glu	Thr 200	Pro	Leu	Val	His	Ile 205	Ile	Ile	Gln	His	Ile 210
Tyr	Arg	Asp	Gly	Val 215	Ile	Ala	Arg	Asp	Gly 220	Arg	Leu	Leu	Pro	Gly 225
Asp	Ile	Ile	Leu	Lys 230	Val	Asn	Gly	Met	Asp 235	Ile	Ser	Asn	Val	Pro 240
His	Asn	Tyr	Ala	Val 245		Leu	Leu	Arg	Gln 250	Pro	Cys	Gln	Val	Let 255
Trp	Leu	Thr	· Val	Met 260		Glu	Gln	Lys	Phe 265	Arg	Ser	Arg	Asn	Asr 270
Gly	Gln	Ala	Pro	275		Tyr	Arg	Pro	Arg 280	Asp	Asp	Ser	Phe	His 285
Val	Ile	Leu	Asn	Lys 290		Ser	Pro	Glu	Glu 295	Gln	Leu	Gly	·Ile	300
Leu	ı Val	Arg	l Lys	Val 305		Glu	. Pro	Gly	Val 310	Phe	Ile	Phe	Asn	Val 315
Leu	. Asp	Gly	, Gly	val	Ala	Tyr	Arg	His	Gly	Gln	Leu	Glu	Glu	Ası

				320					325					330
Asp	Arg	Val	Leu	Ala 335	Ile	Asn	Gly	His	Asp 340	Leu	Arg	Tyr	Gly	Ser 345
Pro	Glu	Ser	Ala	Ala 350	His	Leu	Ile	Gln	Ala 355	Ser	Glu	Arg	Arg	Val 360
His	Leu	Val	Val	Ser 365	Arg	Gln	Val	Arg	Gln 370	Arg	Ser	Pro	Asp	Ile 375
Phe	Gln	Glu	Ala	Gly 380	Trp	Asn	Ser	Asn	Gly 385	Ser	Trp	Ser	Pro	Gly 390
Pro	Gly	Glu	Arg	Ser 395	Asn	Thr	Pro	Lys	Pro 400	Leu	His	Pro	Thr	Ile 405
Thr	Cys	His	Glu	Lys 410	Val	Val	Asn	Ile	Gln 415	Lys	Asp	Pro	Gly	Glu 420
Ser	Leu	Gly	Met	Thr 425	Val	Ala	Gly	Gly	Ala 430	Ser	His	Arg	Glu	Trp 435
Asp	Leu	Pro	Ile	Tyr 440	Val	Ile	Ser	Val	Glu 445	Pro	Gly	Gly	Val	Ile 450
Ser	Arg	Asp	Gly	Arg 455	Ile	Lys	Thr	Gly	Asp 460	Ile	Leu	Leu	Asn	Val 465
Asp	Gly	Val	Glu	Leu 470	Thr	Glu	Val	Ser	Arg 475	Ser	Glu	Ala	Val	Ala 480
Leu	Leu	Lys	Arg	Thr 485	Ser	Ser	Ser	Ile	Val 490	Leu	Lys	Ala	Leu	Glu 495
Val	Lys	Glu	Tyr	Glu 500	Pro	Gln	Glu	Asp	Cys 505	Ser	Ser	Pro	Ala	Ala 510
Leu	Asp	Ser	Asn	His 515	Asn	Met	Ala	Pro	Pro 520	Ser	Asp	Trp	Ser	Pro 525
Ser	Trp	Val	Met	Trp 530	Leu	Glu	Leu	Pro	Arg 535	Cys	Leu	Tyr	Asn	Cys 540
Lys	Asp	Ile	Val	Leu 545	Arg	Arg	Asn	Thr	Ala 550	Gly	Ser	Leu	Gly	Phe 555
Cys	Ile	Val	Gly	Gly 560	Tyr	Glu	Glu	Tyr	Asn 565	Gly	Asn	Lys	Pro	Phe 570
Phe	Ile	Lys	Ser	Ile 575	Val	Glu	Gly	Thr	Pro 580	Ala	Tyr	Asn	Asp	Gly 585
Arg	Ile	arg	Cys	Gly 590	Asp	Ile	Leu	Leu	Ala 595	Val	Asn	Gly	Arg	Ser 600
Thr	Ser	Gly	Met	Ile 605		Ala	Cys	Leu	Ala 610		Leu	Leu	Lys	Glu 615
Leu	Lys	Gly	' Arg	1le 620		Leu	Thr	Ile	Val 625	Ser	Trp	Pro	Gly	Thr 630
Phe	Leu	ι												

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<210> 220
<211> 773
<212> DNA
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<213> Homo sapiens

<400> 220 ccaaagtgat catttgaaaa agagatatcc acatcttcaa gcccatataa 50 aggatagaag ctgcacaggg cagctttact tactccagca ccttcctctc 100 ccaggcaaat ggtgctgacc atctttggga tacaatctca tggatacgag 150 gtttttaaca tcatcagccc aagcaacaat ggtggcaatg ttcaggagac 200 agtgacaatt gataatgaaa aaaataccgc catcgttaac atccatgcag 250 gatcatgctc ttctaccaca atttttgact ataaacatgg ctacattgca 300 tccagggtgc tctcccgaag agcctgcttt atcctgaaga tggaccatca 350 gaacatccct cctctgaaca atctccaatg gtacatctat gagaaacagg 400 ctctggacaa catgttctcc aacaaataca cctgggtcaa gtacaaccct 450 ctggagtctc tgatcaaaga cgtggattgg ttcctgcttg ggtcacccat 500 tgagaaactc tgcaaacata tccctttgta taagggggaa gtggttgaaa 550 acacacataa tgtcggtgct ggaggctgtg caaaggctgg gctcctgggc 600 atcttgggaa tttcaatctg tgcagacatt catgtttagg atgattagcc 650 ctcttgtttt atcttttcaa agaaatacat ccttggttta cactcaaaag 700 tcaaattaaa ttctttccca atgccccaac taattttgag attcagtcag 750 aaaatataaa tgctgtattt ata 773

<210> 221 <211> 184 <212> PRT

<213> Homo sapiens

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Asp Ile His Val

<210> 222

<211> 992

<212> DNA

<213> Homo sapiens

<400> 222

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<210> 223

<211> 265

<212> PRT

<213> Homo sapiens

<400> 223

Met Gly Leu Pro Gly Leu Phe Cys Leu Ala Val Leu Ala Ala Ser 1 5 10 15

Ser Phe Ser Lys Ala Arg Glu Glu Glu Ile Thr Pro Val Val Ser 20 25 30

Ile Ala Tyr Lys Val Leu Glu Val Phe Pro Lys Gly Arg Trp Val 35 40 45

Leu Ile Thr Cys Cys Ala Pro Gln Pro Pro Pro Pro Ile Thr Tyr 50 55 60

Ser Leu Cys Gly Thr Lys Asn Ile Lys Val Ala Lys Lys Val Val 65 70 75

Lys Thr His Glu Pro Ala Ser Phe Asn Leu Asn Val Thr Leu Lys 80 85 90

Ser Ser Pro Asp Leu Leu Thr Tyr Phe Cys Arg Ala Ser Ser Thr 95 100 105

Ser Gly Ala His Val Asp Ser Ala Arg Leu Gln Met His Trp Glu 110 115 120

Leu Trp Ser Lys Pro Val Ser Glu Leu Arg Ala Asn Phe Thr Leu 125 130 135

Gln Asp Arg Gly Ala Gly Pro Arg Val Glu Met Ile Cys Gln Ala 140 145 150

Ser Ser Gly Ser Pro Pro Ile Thr Asn Ser Leu Ile Gly Lys Asp 155 160 165

Gly Gln Val His Leu Gln Gln Arg Pro Cys His Arg Gln Pro Ala 170 175 180

Asn Phe Ser Phe Leu Pro Ser Gln Thr Ser Asp Trp Phe Trp Cys 185 190 195

Gln Ala Asn Asn Asn Val Gln His Ser Ala Leu Thr Val 200 205 210

Val Pro Pro Gly Gly Asp Gln Lys Met Glu Asp Trp Gln Gly Pro 215 220 225

Leu Glu Ser Pro Ile Leu Ala Leu Pro Leu Tyr Arg Ser Thr Arg 230 235 235

Arg Leu Ser Glu Glu Glu Phe Gly Gly Phe Arg Ile Gly Asn Gly 245 250 255

Glu Val Arg Gly Arg Lys Ala Ala Met 260 265

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<210> 224
<211> 1297
<212> DNA
<213> Homo sapiens
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<210> 225

<211> 246

<212> PRT

<213> Homo sapiens

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<210> 226

<211> 735

<212> DNA

<213> Homo sapiens

<400> 226

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caagttatat accgtggaat ggagttgatc ccaaccataa catcgtggag 150

ggttttaatt ttggtggtag ccctcaccca attctggtgt ggctttcttt 200 gcagaggatt ccaccttcaa aatcatgaac tctggctgtt gatcaaaaga 250 gaatttggat tctactctaa aagtcaatat aggacttggc aaaagaagct 300 agcagaagac tcaacctggc ctcccataaa caggacagat tattcaggtg 350 atggcaaaaa tggattctac atcaacggag gctatgaaag ccatgaacag 400 attccaaaaa gaaaactcaa attgggaggc caacccacag aacagcattt 450 ctgggccagg ctgtaatcag aattgtcgtc gtacatgctc aacagcattg 500 ctttttccc caaaattaac acattgtgga gaagtgatga tactctccc 550 ttacctttcc tctctccatt caagcattca aagtatatt tcaatgaatt 600 aaaccttgca gcaagggacc ttagataggc ttattctgac tgtatgctt 650 accaatgaga gaaaaaaaa caattctgt atcatcctt tcaataaact 700 gtattcattt tgaaaaaaaa aaaaaaaaa aaaaaa 735

<210> 227

<211> 115

<212> PRT

<213> Homo sapiens

<400> 227

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Val Val Ala Leu Thr Gln Phe Trp Cys Gly Phe Leu Cys Arg Gly
20 25 30

Phe His Leu Gln Asn His Glu Leu Trp Leu Leu Ile Lys Arg Glu 35 40 45

Phe Gly Phe Tyr Ser Lys Ser Gln Tyr Arg Thr Trp Gln Lys Lys 50 55

Leu Ala Glu Asp Ser Thr Trp Pro Pro Ile Asn Arg Thr Asp Tyr 65 70 75

Ser Gly Asp Gly Lys Asn Gly Phe Tyr Ile Asn Gly Gly Tyr Glu 80 85 90

Ser His Glu Gln Ile Pro Lys Arg Lys Leu Lys Leu Gly Gln 95 100 105

Pro Thr Glu Gln His Phe Trp Ala Arg Leu 110 115

<210> 228

<211> 2185

<212> DNA

<213> Homo sapiens

<400> 228

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<210> 229

<211> 653

<212> PRT

<213> Homo sapiens

<400> 229

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Phe	Asn	Leu	Lys	Tyr 200	Leu	Asn	Leu	Gly	Met 205	Cys	Asn	Ile	Lys	Asp 210
Met	Pro	Asn	Leu	Thr 215	Pro	Leu	Val	Gly	Leu 220	Glu	Glu	Leu	Glu	Met 225
Ser	Gly	Asn	His	Phe 230	Pro	Glu	Ile	Arg	Pro 235	Gly	Ser	Phe	His	Gly 240
Leu	Ser	Ser	Leu	Lys 245	Lys	Leu	Trp	Val	Met 250	Asn	Ser	Gln	Val	Ser 255
Leu	Ile	Glu	Arg	Asn 260	Ala	Phe	Asp	Gly	Leu 265	Ala	Ser	Leu	Val	Glu 270
Leu	Asn	Leu	Ala	His 275	Asn	Asn	Leu	Ser	Ser 280	Leu	Pro	His	Asp	Leu 285
Phe	Thr	Pro	Leu	Arg 290	Tyr	Leu	Val	Glu	Leu 295	His	Leu	His	His	Asn 300
Pro	Trp	Asn	Cys	Asp 305	Суз	Asp	Ile	Leu	Trp 310	Leu	Ala	Trp	Trp	Leu 315
Arg	Glu	Tyr	Ile	Pro 320	Thr	Asn	Ser	Thr	Cys 325	Cys	Gly	Arg	Cys	His 330
Ala	Pro	Met	His	Met 335	Arg	Gly	Arg	Tyr	Leu 340	Val	Glu	Val	Asp	Gln 345
Ala	Ser	Phe	Gln	Cys 350	Ser	Ala	Pro	Phe	Ile 355	Met	Asp	Ala	Pro	Arg 360
Asp	Leu	Asn	Ile	Ser 365	Glu	Gly	Arg	Met	Ala 370	Glu	Leu	Lys	Cys	Arg 375
Thr	Pro	Pro	Met	Ser 380	Ser	Val	Lys	Trp	Leu 385	Leu	Pro	Asn	Gly	Thr 390
Val	Leu	Ser	His	Ala 395	Ser	Arg	His	Pro	Arg 400	Ile	Ser	Val	Leu	Asn 405
Asp	Gly	Thr	Leu	Asn 410	Phe	Ser	His	Val	Leu 415	Leu	Ser	Asp	Thr	Gly 420
Val	Tyr	Thr	Cys	Met 425	Val	Thr	Asn	Val	Ala 430	Gly	Asn	Ser	Asn	Ala 435
Ser	Ala	Tyr	Leu	Asn 440	Val	Ser	Thr	Ala	Glu 445	Leu	Asn	Thr	Ser	Asn 450
Tyr	Ser	Phe	Phe	Thr 455	Thr	Val	Thr	Val	Glu 460	Thr	Thr	Glu	Ile	Ser 465
Pro	Glu	Asp	Thr	Thr 470	Arg	Lys	Tyr	Lys	Pro 475	Val	Pro	Thr	Thr	Ser 480
Thr	Gly	Tyr	Gln	Pro 485	Ala	Tyr	Thr	Thr	Ser 490	Thr	Thr	Val	Leu	Ile 495
Gln	Thr	Thr	Arg	Val	Pro	Lys	Gln	Val	Ala	Val	Pro	Ala	Thr	Asp

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Thr Lys Ile	Ile Ile 530	Gly C	s Phe	Val	Ala 535	Val	Thr	Leu	Leu	Ala 540
Ala Ala Met	Leu Ile 545	Val Ph	ne Tyr	Lys	Leu 550	Arg	Lys	Arg	His	Gln 555
Gln Arg Ser	Thr Val 560	Thr Al	a Ala	Arg	Thr 565	Val	Glu	Ile	Ile	Gln 570
Val Asp Glu	Asp Ile 575	Pro Al	a Ala	Thr	Ser 580	Ala	Ala	Ala	Thr	Ala 585
Ala Pro Ser	Gly Val 590	Ser G	y Glu	Gly	Ala 595	Val	Val	Leu	Pro	Thr 600
Ile His Asp	His Ile 605	Asn Ty	r Asn	Thr	Tyr 610	Lys	Pro	Ala	His	Gly 615
Ala His Trp	Thr Glu 620	Asn Se	er Leu	Gly	Asn 625	Ser	Leu	His	Pro	Thr 630
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<212> DNA

<213> Homo sapiens

<400> 230

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<211> 720

<212> PRT

<213> Homo sapiens

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Phe Val Met Leu Ser Leu Glu Phe Asp Tyr Met Cys Gln Tyr Asp 170 Tyr Val Glu Val Arg Asp Gly Asp Asn Arg Asp Gly Gln Ile Ile Lys Arg Val Cys Gly Asn Glu Arg Pro Ala Pro Ile Gln Ser Ile 210 200 Gly Ser Ser Leu His Val Leu Phe His Ser Asp Gly Ser Lys Asn 220 Phe Asp Gly Phe His Ala Ile Tyr Glu Glu Ile Thr Ala Cys Ser 230 Ser Ser Pro Cys Phe His Asp Gly Thr Cys Val Leu Asp Lys Ala Gly Ser Tyr Lys Cys Ala Cys Leu Ala Gly Tyr Thr Gly Gln Arg Cys Glu Asn Leu Leu Glu Glu Arg Asn Cys Ser Asp Pro Gly Gly Pro Val Asn Gly Tyr Gln Lys Ile Thr Gly Gly Pro Gly Leu Ile Asn Gly Arg His Ala Lys Ile Gly Thr Val Val Ser Phe Phe Cys 315 Asn Asn Ser Tyr Val Leu Ser Gly Asn Glu Lys Arg Thr Cys Gln 320 Gln Asn Gly Glu Trp Ser Gly Lys Gln Pro Ile Cys Ile Lys Ala Cys Arg Glu Pro Lys Ile Ser Asp Leu Val Arg Arg Arg Val Leu 360 350 Pro Met Gln Val Gln Ser Arg Glu Thr Pro Leu His Gln Leu Tyr 365 Ser Ala Ala Phe Ser Lys Gln Lys Leu Gln Ser Ala Pro Thr Lys Lys Pro Ala Leu Pro Phe Gly Asp Leu Pro Met Gly Tyr Gln His 400 Leu His Thr Gln Leu Gln Tyr Glu Cys Ile Ser Pro Phe Tyr Arg 410 Arg Leu Gly Ser Ser Arg Arg Thr Cys Leu Arg Thr Gly Lys Trp Ser Gly Arg Ala Pro Ser Cys Ile Pro Ile Cys Gly Lys Ile Glu 445 Asn Ile Thr Ala Pro Lys Thr Gln Gly Leu Arg Trp Pro Trp Gln 455 Ala Ala Ile Tyr Arg Arg Thr Ser Gly Val His Asp Gly Ser Leu 475 480

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Glu Arg Thr Val Val Val Ala Ala His Cys Val Thr Asp Leu Gly
Lys Val Thr Met Ile Lys Thr Ala Asp Leu Lys Val Val Leu Gly
Lys Phe Tyr Arg Asp Asp Asp Arg Asp Glu Lys Thr Ile Gln Ser
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Leu Gln Ile Ser Ala Ile Ile Leu His Pro Asn Tyr Asp Pro Ile
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Leu Leu Asp Ala Asp Ile Ala Ile Leu Lys Leu Leu Asp Lys Ala
Arg Ile Ser Thr Arg Val Gln Pro Ile Cys Leu Ala Ala Ser Arg
                                                          585
Asp Leu Ser Thr Ser Phe Gln Glu Ser His Ile Thr Val Ala Gly
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Trp Asn Val Leu Ala Asp Val Arg Ser Pro Gly Phe Lys Asn Asp
Thr Leu Arg Ser Gly Val Val Ser Val Val Asp Ser Leu Leu Cys
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Glu Glu Gln His Glu Asp His Gly Ile Pro Val Ser Val Thr Asp
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Asn Met Phe Cys Ala Ser Trp Glu Pro Thr Ala Pro Ser Asp Ile
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Cys Thr Ala Glu Thr Gly Gly Ile Ala Ala Val Ser Phe Pro Gly
Arg Ala Ser Pro Glu Pro Arg Trp His Leu Met Gly Leu Val Ser
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tgtaaaatga ttttgtacaa gtaggatatg aattagcagt ttacaagttt 1900
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Val Ala Glu Trp Glu Glu Val Glu Pro Asp Ala Thr Arg Ala Val
Lys Gln Lys Thr Gly Asp Phe Ser Ala Ser Leu Lys Leu Gln Glu
Thr Leu Arg Gly Ile Gln Val Leu Gly Pro Thr Leu Ile Gln Thr
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Phe Gln Lys Met Thr Val Thr Leu Asn Phe Leu Gly Ser Pro Pro
                260
Leu Thr Val Cys Trp Arg Leu Lys Pro Glu Cys Leu Pro Leu Glu
Glu Gly Glu Cys His Pro Val Ser Val Ala Ser Thr Ala Tyr Asn
Leu Thr His Thr Phe Arg Asp Pro Gly Asp Tyr Cys Phe Ser Ile
Arg Ala Glu Asn Ile Ile Ser Lys Thr His Gln Tyr His Lys Ile
Gln Val Trp Pro Ser Arg Ile Gln Pro Ala Val Phe Ala Phe Pro
Cys Ala Thr Leu Ile Thr Val Met Leu Ala Phe Ile Met Tyr Met
                 350
Thr Leu Arg Asn Ala Thr Gln Gln Lys Asp Met Val Glu Asn Pro
Glu Pro Pro Ser Gly Val Arg Cys Cys Cys Gln Met Cys Cys Gly
                 380
Pro Phe Leu Leu Glu Thr Pro Ser Glu Tyr Leu Glu Ile Val Arg
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Glu Asn His Gly Leu Leu Pro Pro Leu Tyr Lys Ser Val Lys Thr
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Tyr Thr Val
<210> 242
<211> 26
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<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 242

cattteetta ceetggacee agetee 26

<210> 243

<211> 25

<212> DNA

<213> Artificial Sequence

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<223> Synthetic oligonucleotide probe
<400> 243
gaaaggccca cagcacatct ggcag 25
<210> 244
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<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 244
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<210> 245
<211> 485
<212> DNA
<213> Homo sapiens
<400> 245
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 ctgaccagtg gctctgtttt cccacaacag acgggacaac ttgcagagct 150
 gcaaccccag gacagagctg gagccagggc cagctggatg cccatgttcc 200
 agaggcgaag gaggcgagac acccacttcc ccatctgcat tttctgctgc 250
 ggctgctgtc atcgatcaaa gtgtgggatg tgctgcaaga cgtagaacct 300
 acctgccctg cccccgtccc ctcccttcct tatttattcc tgctgcccca 350
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 aaaaaaaaaa aaaaaaaaaa aaaaa 485
<210> 246
<211> 84
<212> PRT
<213> Homo sapiens
<400> 246
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 Leu Leu Leu Ala Ser Leu Thr Ser Gly Ser Val Phe Pro Gln Gln
 Thr Gly Gln Leu Ala Glu Leu Gln Pro Gln Asp Arg Ala Gly Ala
                                     40
 Arg Ala Ser Trp Met Pro Met Phe Gln Arg Arg Arg Arg Asp
 Thr His Phe Pro Ile Cys Ile Phe Cys Cys Gly Cys Cys His Arg
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Ser Lys Cys Gly Met Cys Cys Lys Thr 80

<210> 247 <211> 2359

<212> DNA

<213> Homo sapiens

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gaagagggag aaggtgaagg acacgttcaa ggaggagcag cagaagctgt 1400 acagcaagat gatcgtgggg aaccacaagg acaggagccg ctcctgagcc 1450 tgcctccagc tggctggggc caccgtgcgg ggtgccaacg ggctcagagc 1500 tggagttgcc gccgccgccc ccactgctgt gtcctttcca gactccaggg 1550 ctccccgggc tgctctggat cccaggactc cggctttcgc cgagccgcag 1600 cgggatccct gtgcacccgg cgcagcctac ccttggtggt ctaaacggat 1650 gctgctgggt gttgcgaccc aggacgagat gccttgtttc ttttacaata 1700 agtcgttgga ggaatgccat taaagtgaac tccccacctt tgcacgctgt 1750 gcgggctgag tggttgggga gatgtggcca tggtcttgtg ctagagatgg 1800 cggtacaaga gtctgttatg caagcccgtg tgccagggat gtgctggggg 1850 cggccacccg ctctccagga aaggcacagc tgaggcactg tggctggctt 1900 cggcctcaac atcgccccca gccttggagc tctgcagaca tgataggaag 1950 gaaactgtca tctgcagggg ctttcagcaa aatgaagggt tagattttta 2000 tgctgctgct gatggggtta ctaaagggag gggaagaggc caggtgggcc 2050 gctgactggg ccatggggag aacgtgtgtt cgtactccag gctaaccctg 2100 aactccccat gtgatgcgcg ctttgttgaa tgtgtgtctc ggtttcccca 2150 tctgtaatat gagtcggggg gaatggtggt gattcctacc tcacagggct 2200 gttgtgggga ttaaagtgct gcgggtgagt gaaggacaca tcacgttcag 2250 tgtttcaagt acaggcccac aaaacggggc acggcaggcc tgagctcaga 2300 gctgctgcac tgggctttgg atttgttctt gtgagtaaat aaaactggct 2350 ggtgaatga 2359

<210> 248

<211> 456

<212> PRT

<213> Homo sapiens

<400> 248
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Gly Ile Ser Leu Thr Val Leu Phe Thr Leu Leu Leu Val Phe Ile 30
Ile Val Pro Ala Ile Phe Gly Val Ser Phe Gly Ile Arg Lys Leu 45
Tyr Met Lys Ser Leu Leu Lys Ile Phe Ala Trp Ala Thr Leu Arg 60
Met Glu Arg Gly Ala Lys Glu Lys Asn His Gln Leu Tyr Lys Pro 75

Tyr Thr Asn Gly Ile Ile Ala Lys Asp Pro Thr Ser Leu Glu Glu Glu Ile Lys Glu Ile Arg Arg Ser Gly Ser Ser Lys Ala Leu Asp Asn Thr Pro Glu Phe Glu Leu Ser Asp Ile Phe Tyr Phe Cys Arg 115 Lys Gly Met Glu Thr Ile Met Asp Asp Glu Val Thr Lys Arg Phe 130 125 Ser Ala Glu Glu Leu Glu Ser Trp Asn Leu Leu Ser Arg Thr Asn Tyr Asn Phe Gln Tyr Ile Ser Leu Arg Leu Thr Val Leu Trp Gly Leu Gly Val Leu Ile Arg Tyr Cys Phe Leu Leu Pro Leu Arg Ile 175 Ala Leu Ala Phe Thr Gly Ile Ser Leu Leu Val Val Gly Thr Thr Val Val Gly Tyr Leu Pro Asn Gly Arg Phe Lys Glu Phe Met Ser Lys His Val His Leu Met Cys Tyr Arg Ile Cys Val Arg Ala Leu 215 220 Thr Ala Ile Ile Thr Tyr His Asp Arg Glu Asn Arg Pro Arg Asn Gly Gly Ile Cys Val Ala Asn His Thr Ser Pro Ile Asp Val Ile Ile Leu Ala Ser Asp Gly Tyr Tyr Ala Met Val Gly Gln Val His 265 Gly Gly Leu Met Gly Val Ile Gln Arg Ala Met Val Lys Ala Cys Pro His Val Trp Phe Glu Arg Ser Glu Val Lys Asp Arg His Leu Val Ala Lys Arg Leu Thr Glu His Val Gln Asp Lys Ser Lys Leu 305 Pro Ile Leu Ile Phe Pro Glu Gly Thr Cys Ile Asn Asn Thr Ser 325 Val Met Met Phe Lys Lys Gly Ser Phe Glu Ile Gly Ala Thr Val Tyr Pro Val Ala Ile Lys Tyr Asp Pro Gln Phe Gly Asp Ala Phe 355 350 Trp Asn Ser Ser Lys Tyr Gly Met Val Thr Tyr Leu Leu Arg Met Met Thr Ser Trp Ala Ile Val Cys Ser Val Trp Tyr Leu Pro Pro 390 380

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Met Thr Arg Glu Ala Asp Glu Asp Ala Val Gln Phe Ala Asn Arg 405

Val Lys Ser Ala Ile Ala Arg Gln Gly Gly Leu Val Asp Leu Leu 420

Trp Asp Gly Gly Leu Lys Arg Glu Lys Val Lys Asp Thr Phe Lys 435

Glu Glu Gln Gln Lys Leu Tyr Ser Lys Met Ile Val Gly Asn His 450

Lys Asp Arg Ser Arg Ser 455
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<210> 249

<211> 1103 <212> DNA

<213> Homo sapiens

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gga 1103
<210> 250
<211> 240
<212> PRT
<213> Homo sapiens
<400> 250
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Leu Ala Pro Asp Thr Phe Asp Asp Thr Tyr Val Gly Cys Ala Glu
 Glu Met Glu Glu Lys Ala Ala Pro Leu Leu Lys Glu Glu Met Ala
 His His Ala Leu Leu Arg Glu Ser Trp Glu Ala Ala Gln Glu Thr
 Trp Glu Asp Lys Arg Arg Gly Leu Thr Leu Pro Pro Gly Phe Lys
 Ala Gln Asn Gly Ile Ala Ile Met Val Tyr Thr Asn Ser Ser Asn
                                     100
 Thr Leu Tyr Trp Glu Leu Asn Gln Ala Val Arg Thr Gly Gly
                                                          120
                 110
 Ser Arg Glu Leu Tyr Met Arg His Phe Pro Phe Lys Ala Leu His
                                     130
                                                          135
                 125
 Phe Tyr Leu Ile Arg Ala Leu Gln Leu Leu Arg Gly Ser Gly Gly
                                                          150
                                     145
 Cys Ser Arg Gly Pro Gly Glu Val Val Phe Arg Gly Val Gly Ser
 Leu Arg Phe Glu Pro Lys Arg Leu Gly Asp Ser Val Arg Leu Gly
                                                          180
                 170
 Gln Phe Ala Ser Ser Ser Leu Asp Lys Ala Val Ala His Arg Phe
                 185
 Gly Glu Lys Arg Arg Gly Cys Val Ser Ala Pro Gly Val Gln Leu
 Gly Ser Gln Ser Glu Gly Ala Ser Ser Leu Pro Pro Trp Lys Thr
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                                      235
<210> 251
<211> 50
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<212> DNA

<213> Artificial Sequence

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<223> Synthetic oligonucleotide probe
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<210> 252
<211> 1076
<212> DNA
<213> Homo sapiens
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 gcctctggac ccgtgaaaga gctggtcggt tccgttggtg gggccgtgac 150
 tttccccctg aagtccaaag taaagcaagt tgactctatt gtctggacct 200
 tcaacacaac ccctcttgtc accatacagc cagaaggggg cactatcata 250
 gtgacccaaa atcgtaatag ggagagagta gacttcccag atggaggcta 300
 ctccctgaag ctcagcaaac tgaagaagaa tgactcaggg atctactatg 350
 tggggatata cagctcatca ctccagcagc cctccaccca ggagtacgtg 400
 ctgcatgtct acgagcacct gtcaaagcct aaagtcacca tgggtctgca 450
 gagcaataag aatggcacct gtgtgaccaa tctgacatgc tgcatggaac 500
 atggggaaga ggatgtgatt tatacctgga aggccctggg gcaagcagcc 550
 aatgagtccc ataatgggtc catcctcccc atctcctgga gatggggaga 600
 aagtgatatg accttcatct gcgttgccag gaaccctgtc agcagaaact 650
 tetcaagece cateettgee aggaagetet gtgaaggtge tgetgatgae 700
 ccagattect ccatggtect cctgtgtete ctgttggtge ccctectget 750
 cagtetettt gtactgggge tatttetttg gtttetgaag agagagagae 800
 aagaagagta cattgaagag aagaagagag tggacatttg tcgggaaact 850
 cctaacatat gcccccattc tggagagaac acagagtacg acacaatccc 900
 tcacactaat agaacaatcc taaaggaaga tccagcaaat acggtttact 950
 ccactgtgga aataccgaaa aagatggaaa atccccactc actgctcacg 1000
 atgccagaca caccaagget atttgcctat gagaatgtta tctagacage 1050
 agtgcactcc cctaagtctc tgctca 1076
 <210> 253
 <211> 335
 <212> PRT
 <213> Homo sapiens
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<400> 253

Met Ala Gly Ser Pro Thr Cys Leu Thr Leu Ile Tyr Ile Leu Trp

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Gln	Leu	Thr	Gly	Ser 20	Ala	Ala	Ser	Gly	Pro 25	Val	Lys	Glu	Leu	Val 30
Gly	Ser	Val	Gly	Gly 35	Ala	Val	Thr	Phe	Pro 40	Leu	Lys	Ser	Lys	Val 45
Lys	Gln	Val	Asp	Ser 50	Ile	Val	Trp	Thr	Phe 55	Asn	Thr	Thr	Pro	Leu 60
Val	Thr	Ile	Gln	Pro 65	Glu	Gly	Gly	Thr	Ile 70	Ile	Val	Thr	Gln	Asn 75
Arg	Asn	Arg	Glu	Arg 80	Val	Asp	Phe	Pro	Asp 85	Gly	Gly	Tyr	Ser	Leu 90
Lys	Leu	Ser	Lys	Leu 95	Lys	Lys	Asn	Asp	Ser 100	Gly	Ile	Tyr	Tyr	Val 105
Gly	Ile	Tyr	Ser	Ser 110	Ser	Leu	Gln	Gln	Pro 115	Ser	Thr	Gln	Glu	Tyr 120
Val	Leu	His	Val	Tyr 125	Glu	His	Leu	Ser	Lys 130	Pro	Lys	Val	Thr	Met 135
Gly	Leu	Gln	Ser	Asn 140	Lys	Asn	Gly	Thr	Cys 145	Val	Thr	Asn	Leu	Thr 150
Суз	Cys	Met	Glu	His 155	Gly	Glu	Glu	Asp	Val 160	Ile	Tyr	Thr	Trp	Lys 165
Ala	Leu	Gly	Gln	Ala 170	Ala	Asn	Glu	Ser	His 175	Asn	Gly	Ser	Ile	Leu 180
Pro	Ile	Ser	Trp	Arg 185		Gly	Glu	Ser	Asp 190	Met	Thr	Phe	Ile	Cys 195
Val	Ala	Arg	Asn	Pro 200		Ser	Arg	Asn	Phe 205	Ser	Ser	Pro	Ile	Let 210
Ala	Arg	Lys	Leu	Cys 215	Glu	Gly	Ala	Ala	Asp 220	Asp	Pro	Asp	Ser	Ser 225
Met	Val	Leu	Leu	Cys 230	Leu	Leu	Leu	Val	Pro 235	Leu	Leu	Leu	Ser	Let 240
Phe	· Val	Leu	Gly	Leu 245	Phe	Leu	Trp	Phe	Leu 250	Lys	Arg	Glu	Arg	Glr 255
Glu	ı Glu	Туг	: Ile	Glu 260		Lys	Lys	Arg	y Val 265	Asp	Ile	cys	Arg	Glt 270
Thr	Pro	Asn	ıle	Cys 275		His	Ser	Gly	7 Glu 280	Asn	Thr	Glu	Tyr	285
Thr	: Ile	Pro) His	Thr 290	Asn	Arg	Thr	: Ile	295	Lys	Glu	Asp	Pro	300
Asr	Thr	· Val	Туг	Ser 305		: Val	. Glu	ı Ile	9 Pro	Lys	Lys	Met	Glu	Ası 31
Pro	His	Sei	Let	ı Lev	ı Thr	Met	Pro	Asp	Thr	Pro	Arg	g Leu	Phe	al:

Tyr Glu Asn Val Ile 335

<210> 254

<211> 1053

<212> DNA

<213> Homo sapiens

<400> 254 ctggttcccc aacatgcctc accctcatct atatcctttg gcagctcaca 50 gggtcagcag cctctggacc cgtgaaagag ctggtcggtt ccgttggtgg 100 ggccgtgact ttccccctga agtccaaagt aaagcaagtt gactctattg 150 tctggacctt caacacaacc cctcttgtca ccatacagcc agaagggggc 200 actatcatag tgacccaaaa tcgtaatagg gagagagtag acttcccaga 250 tggaggctac tccctgaagc tcagcaaact gaagaagaat gactcaggga 300 tctactatgt ggggatatac agctcatcac tccagcagcc ctccacccag 350 gagtacgtgc tgcatgtcta cgagcacctg tcaaagccta aagtcaccat 400 gggtctgcag agcaataaga atggcacctg tgtgaccaat ctgacatgct 450 gcatggaaca tggggaagag gatgtgattt atacctggaa ggccctgggg 500 caagcagcca atgagtccca taatgggtcc atcctcccca tctcctggag 550 atggggagaa agtgatatga ccttcatctg cgttgccagg aaccctgtca 600 gcagaaactt ctcaagcccc atccttgcca ggaagctctg tgaaggtgct 650 gctgatgacc cagattcctc catggtcctc ctgtgtctcc tgttggtgcc 700 cctcctgctc agtctctttg tactggggct atttctttgg tttctgaaga 750 gagagagaca agaagagtac attgaagaga agaagagagt ggacatttgt 800 cgggaaactc ctaacatatg cccccattct ggagagaaca cagagtacga 850 cacaatccct cacactaata gaacaatcct aaaggaagat ccagcaaata 900 cggtttactc cactgtggaa ataccgaaaa agatggaaaa tccccactca 950 ctgctcacga tgccagacac accaaggcta tttgcctatg agaatgttat 1000 ctagacagca gtgcactccc ctaagtctct gctcaaaaaa aaaaaaaaa 1050 aaa 1053

<210> 255

<211> 860

<212> DNA

<213> Homo sapiens

<400> 255

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gatgctgctg ctgctgtgtt tgggactgac cctagtctgt gtccatgcag 100 aagaagctag ttctacggga aggaacttta atgtagaaaa gattaatggg 150 qaatqqcata ctattatcct ggcctctgac aaaagagaaa agatagaaga 200 acatggcaac tttagacttt ttctggagca aatccatgtc ttggagaatt 250 ccttagttct taaagtccat actgtaagag atgaagagtg ctccgaatta 300 tctatggttg ctgacaaaac agaaaaggct ggtgaatatt ctgtgacgta 350 tgatggattc aatacattta ctatacctaa gacagactat gataactttc 400 ttatggctca cctcattaac gaaaaggatg gggaaacctt ccagctgatg 450 gggctctatg gccgagaacc agatttgagt tcagacatca aggaaaggtt 500 tgcacaacta tgtgaggagc atggaatcct tagagaaaat atcattgacc 550 tatccaatgc caatcgctgc ctccaggccc gagaatgaag aatggcctga 600 geetecagtg ttgagtggae actteteace aggaetecae cateatecet 650 tcctatccat acagcatccc cagtataaat tctgtgatct gcattccatc 700 ctgtctcact gagaagtcca attccagtct atcaacatgt tacctaggat 750 acctcatcaa gaatcaaaga cttctttaaa tttctctttg atacaccctt 800 gacaattttt catgaaatta ttcctcttcc tgttcaataa atgattaccc 850 ttqcacttaa 860

<210> 256

<211> 180

<212> PRT

<213> Homo sapiens

<400> 256

Met Lys Met Leu Leu Leu Cys Leu Gly Leu Thr Leu Val Cys 1 5 10 15

Val His Ala Glu Glu Ala Ser Ser Thr Gly Arg Asn Phe Asn Val 20 25 30

Glu Lys Ile Asn Gly Glu Trp His Thr Ile Ile Leu Ala Ser Asp

Lys Arg Glu Lys Ile Glu Glu His Gly Asn Phe Arg Leu Phe Leu 50 55 60

Glu Gln Ile His Val Leu Glu Asn Ser Leu Val Leu Lys Val His
65 70 75

Thr Val Arg Asp Glu Glu Cys Ser Glu Leu Ser Met Val Ala Asp 80 85 90

Lys Thr Glu Lys Ala Gly Glu Tyr Ser Val Thr Tyr Asp Gly Phe 95 100 105

Asn Thr Phe Thr Ile Pro Lys Thr Asp Tyr Asp Asn Phe Leu Met 110 115 120

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Ala His Leu Ile Asn Glu Lys Asp Gly Glu Thr Phe Gln Leu Met
125 130 135
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Gly Leu Tyr Gly Arg Glu Pro Asp Leu Ser Ser Asp Ile Lys Glu 140 145 150

Arg Phe Ala Gln Leu Cys Glu Glu His Gly Ile Leu Arg Glu Asn 155 160 165

Ile Ile Asp Leu Ser Asn Ala Asn Arg Cys Leu Gln Ala Arg Glu 170 175 180

<210> 257

<211> 766

<212> DNA

<213> Homo sapiens

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<210> 258

<211> 229

<212> PRT

<213> Homo sapiens

<400> 258

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Ile Val Ser Leu Val Glu Glu Asp Gln Phe Ser Gln Asn Pro Ile

35 40 45

Ser Cys Phe Glu Trp Trp Phe Pro Gly Ile Ile Gly Ala Gly Leu Met Ala Ile Pro Ala Thr Thr Met Ser Leu Thr Ala Arg Lys Arg Ala Cys Cys Asn Asn Arg Thr Gly Met Phe Leu Ser Ser Phe Phe 85 Ser Val Ile Thr Val Ile Gly Ala Leu Tyr Cys Met Leu Ile Ser Ile Gln Ala Leu Leu Lys Gly Pro Leu Met Cys Asn Ser Pro Ser Asn Ser Asn Ala Asn Cys Glu Phe Ser Leu Lys Asn Ile Ser Asp Ile His Pro Glu Ser Phe Asn Leu Gln Trp Phe Phe Asn Asp Ser 145 140 Cys Ala Pro Pro Thr Gly Phe Asn Lys Pro Thr Ser Asn Asp Thr Met Ala Ser Gly Trp Arg Ala Ser Ser Phe His Phe Asp Ser Glu Glu Asn Lys His Arg Leu Ile His Phe Ser Val Phe Leu Gly Leu 190 185 Leu Leu Val Gly Ile Leu Glu Val Leu Phe Gly Leu Ser Gln Ile

Val Ile Gly Phe Leu Gly Cys Leu Cys Gly Val Ser Lys Arg Arg

225

Ser Gln Ile Val

<210> 259

<211> 434

<212> DNA

<400> 259

<213> Homo sapiens

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tccaaagtct ttcaacgaca ccctgatctt cactaaaaat tgtaaaggtt 400

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tcaacacgtt gctttaataa atcacttgcc ctgc 434
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<210> 260
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<400> 260

Cys Tyr Gln Ala His Ala Leu Val Cys Pro Ala Val Ala Ser Glu 20 25 30

Ile Thr Val Phe Leu Phe Leu Ser Asp Ala Ala Val Asn Leu Gln 35 40 45

Val Ala Lys Leu Asn Pro Pro Pro Glu Ala Leu Ala Ala Lys Leu
50 55 60

Glu Val Lys His Cys Thr Asp Gln Ile Ser Phe Lys Lys Arg Leu 65 70 75

Ser Leu Lys Lys Ser Trp Trp Lys 80

<210> 261

<211> 636

<212> DNA

<213> Homo sapiens

<400> 261
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cgccccagtg cctctccccc tgcagccctg cccctcgaac tgtgacatgg 200
agaagagtgac cctggccctt ctcctactgg caggcctgac tgccttggaa 250
gccaatgacc catttgccaa taaagacgat cccttctact atgactggaa 300
aaacctgcag ctgagcggac tgatctgcgg agggctcctg gccattgctg 350
ggatcgcggc agttctgagt ggcaaatgca aatacaagag cagccagaag 400
cagcacagtc ctgtacctga gaaggccatc ccactcatca ctccaggctc 450
tgccactact tgctgagcac aggactgcc tccagggatg gcctgaagcc 500
taacactggc ccccagcacc tcctcccctg ggaggcctta tcctcaagga 550
aggacttctc tccaagggca ggctgttagg cccctttctg atcaggagc 600
ttctttatga attaaactcg ccccaccacc ccctca 636

<211> 83

<212> PRT

<213> Homo sapiens

<210> 262

<211> 89

<212> PRT

<213> Homo sapiens

<210> 263 <211> 1676 <212> DNA

<213> Homo sapiens

<400> 263 ggagaagagg ttgtgtggga caagctgctc ccgacagaag gatgtcgctg 50 ctgagcctgc cctggctggg cctcagaccg gtggcaatgt ccccatggct 100 actcctgctg ctggttgtgg gctcctggct actcgcccgc atcctggctt 150 ggacctatgc cttctataac aactgccgcc ggctccagtg tttcccacag 200 cccccaaaac ggaactggtt ttggggtcac ctgggcctga tcactcctac 250 agaggagggc ttgaaggact cgacccagat gtcggccacc tattcccagg 300 gctttacggt atggctgggt cccatcatcc ccttcatcgt tttatgccac 350 cctgacacca tccggtctat caccaatgcc tcagctgcca ttgcacccaa 400 ggataatete tteateaggt teetgaagee etggetggga gaagggatae 450 tgctgagtgg cggtgacaag tggagccgcc accgtcggat gctgacgccc 500 geetteeatt teaacateet gaagteetat ataacgatet teaacaagag 550 tgcaaacatc atgcttgaca agtggcagca cctggcctca gagggcagca 600 gtcgtctgga catgtttgag cacatcagcc tcatgacctt ggacagtcta 650 cagaaatgca tcttcagctt tgacagccat tgtcaggaga ggcccagtga 700 atatattgcc accatcttgg agctcagtgc ccttgtagag aaaagaagcc 750 agcatatect ceageacatg gaetttetgt attacetete ceatgaeggg 800 cggcgcttcc acagggcctg ccgcctggtg catgacttca cagacgctgt 850 cateegggag eggegtegea cecteeceae teagggtatt gatgattttt 900 tcaaagacaa agccaagtcc aagactttgg atttcattga tgtgcttctg 950 ctgagcaagg atgaagatgg gaaggcattg tcagatgagg atataagagc 1000 agaggctgac accttcatgt ttggaggcca tgacaccacg gccagtggcc 1050 tctcctgggt cctgtacaac cttgcgaggc acccagaata ccaggagcgc 1100 tgccgacagg aggtgcaaga gcttctgaag gaccgcgatc ctaaagagat 1150 tgaatgggac gacctggccc agctgcctt cctgaccatg tgcgtgaagg 1200 agaggcctgag gttacatccc ccagctccct tcatctcccg atgctgcacc 1250 caggacattg ttctcccaga tggccgagtc atcccaaag gcattacctg 1300 cctcatcgat attatagggg tccatcacaa cccaaactgtg tggccggatc 1350 ctgaggtcta cgacccttc cgctttgacc cagagacaag caaggggagg 1400 tcacctctgg ctttattcc tttctccgca gggcccagga actgcatcgg 1450 gcaggcgttc gccatggcag agatgaaagt ggtcctggcg ttgatgctg 1500 tgcacttccg gttcctgcca gaccacctg agccccgcag gaagctggaa 1550 ttgatcatgc cagtgactt ctgacccatc cacctgttt tttgcagatt 1650 gtcatgaata aaacggtgct gtcaaa 1676

<210> 264

<211> 524

<212> PRT

<213> Homo sapiens

<400> 264

Met Ser Leu Leu Ser Leu Pro Trp Leu Gly Leu Arg Pro Val Ala 1 5 10 15

Met Ser Pro Trp Leu Leu Leu Leu Val Val Gly Ser Trp Leu 20 25 30

Leu Ala Arg Ile Leu Ala Trp Thr Tyr Ala Phe Tyr Asn Asn Cys 35 40 45

Arg Arg Leu Gln Cys Phe Pro Gln Pro Pro Lys Arg Asn Trp Phe 50 55 60

Trp Gly His Leu Gly Leu Ile Thr Pro Thr Glu Glu Gly Leu Lys
65 70 75

Asp Ser Thr Gln Met Ser Ala Thr Tyr Ser Gln Gly Phe Thr Val $80 \\ 85 \\ 90$

Trp Leu Gly Pro Ile Ile Pro Phe Ile Val Leu Cys His Pro Asp 95 100 105

Thr Ile Arg Ser Ile Thr Asn Ala Ser Ala Ala Ile Ala Pro Lys 110 115 120

Asp Asn Leu Phe Ile Arg Phe Leu Lys Pro Trp Leu Gly Glu Gly 125 130 135

Ile Leu Leu Ser Gly Gly Asp Lys Trp Ser Arg His Arg Arg Met Leu Thr Pro Ala Phe His Phe Asn Ile Leu Lys Ser Tyr Ile Thr Ile Phe Asn Lys Ser Ala Asn Ile Met Leu Asp Lys Trp Gln His Leu Ala Ser Glu Gly Ser Ser Arg Leu Asp Met Phe Glu His Ile 190 Ser Leu Met Thr Leu Asp Ser Leu Gln Lys Cys Ile Phe Ser Phe 200 Asp Ser His Cys Gln Glu Arg Pro Ser Glu Tyr Ile Ala Thr Ile 220 Leu Glu Leu Ser Ala Leu Val Glu Lys Arg Ser Gln His Ile Leu 230 Gln His Met Asp Phe Leu Tyr Tyr Leu Ser His Asp Gly Arg Arg 245 Phe His Arg Ala Cys Arg Leu Val His Asp Phe Thr Asp Ala Val Ile Arg Glu Arg Arg Thr Leu Pro Thr Gln Gly Ile Asp Asp Phe Phe Lys Asp Lys Ala Lys Ser Lys Thr Leu Asp Phe Ile Asp Val Leu Leu Ser Lys Asp Glu Asp Gly Lys Ala Leu Ser Asp Glu Asp Ile Arg Ala Glu Ala Asp Thr Phe Met Phe Gly Gly His 325 Asp Thr Thr Ala Ser Gly Leu Ser Trp Val Leu Tyr Asn Leu Ala 335 Arg His Pro Glu Tyr Gln Glu Arg Cys Arg Gln Glu Val Gln Glu 360 355 Leu Leu Lys Asp Arg Asp Pro Lys Glu Ile Glu Trp Asp Asp Leu Ala Gln Leu Pro Phe Leu Thr Met Cys Val Lys Glu Ser Leu Arg 390 380 Leu His Pro Pro Ala Pro Phe Ile Ser Arg Cys Cys Thr Gln Asp 405 Ile Val Leu Pro Asp Gly Arg Val Ile Pro Lys Gly Ile Thr Cys 415 410 Leu Ile Asp Ile Ile Gly Val His His Asn Pro Thr Val Trp Pro Asp Pro Glu Val Tyr Asp Pro Phe Arg Phe Asp Pro Glu Asn Ser 445 450

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Lys Gly Arg Ser Pro Leu Ala Phe Ile Pro Phe Ser Ala Gly Pro 455 460 465
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Arg Asn Cys Ile Gly Gln Ala Phe Ala Met Ala Glu Met Lys Val 470 475 480

Val Leu Ala Leu Met Leu Leu His Phe Arg Phe Leu Pro Asp His 485 490 495

Thr Glu Pro Arg Arg Lys Leu Glu Leu Ile Met Arg Ala Glu Gly 500 505

Gly Leu Trp Leu Arg Val Glu Pro Leu Asn Val Gly Leu Gln 515 520

- <210> 265
- <211> 584
- <212> DNA
- <213> Homo sapiens

<400> 265
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tcttcctctc cttgactcca gggaaatatc ctttcaactc tcagcacctc 150
atgaagacgc gcgcttaact ccggaggagc tagaaagagc ttcccttcta 200
cagatattgc cagagatgct gggtgcagaa agaggggata ttctcaggaa 250
agcagactca agtaccaaca tttttaaccc aagaggaaat ttgagaaagt 300
ttcaggattt ctctggacaa gatcctaaca ttttactgag tcatcttttg 350
gccagaatct ggaaaccata caagaaacgt gagactcctg attgcttctg 400
gaaatactgt gtctgaagtg aaataagcat ctgttagtca gctcagaaac 450
acccatctta gaatatgaaa aataacacaa tgcttgattt gaaaacagtg 500
tggagaaaaa ctaggcaaac tacaccctgt tcattgttac ctggaaaata 550

<210> 266

<211> 124

<212> PRT

<213> Homo sapiens

<400> 266

Met Tyr Lys Leu Ala Ser Cys Cys Leu Leu Phe Thr Gly Phe Leu
1 5 10 15

aatcctctat gttttgcaca aaaaaaaaaa aaaa 584

Asn Pro Leu Leu Ser Leu Pro Leu Leu Asp Ser Arg Glu Ile Ser 20 25 30

Phe Gln Leu Ser Ala Pro His Glu Asp Ala Arg Leu Thr Pro Glu 35 40 45

Glu Leu Glu Arg Ala Ser Leu Leu Gln Ile Leu Pro Glu Met Leu 50 55 60

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Gly Ala Glu Arg Gly Asp Ile Leu Arg Lys Ala Asp Ser Ser Thr 75

Asn Ile Phe Asn Pro Arg Gly Asn Leu Arg Lys Phe Gln Asp Phe 90

Ser Gly Gln Asp Pro Asn Ile Leu Leu Ser His Leu Leu Ala Arg 105

Ile Trp Lys Pro Tyr Lys Lys Arg Glu Thr Pro Asp Cys Phe Trp 120
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Lys Tyr Cys Val

<210> 267 <211> 654 <212> DNA

<213> Homo sapiens

<400> 267
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cacetetggg atggggttge tggtttaaaa caaaegeeag teateetata 100
taaggacetg acageeaeea ggeaceaeet cegeeaggaa etgeaggeee 150
acetgtetge aaceeagetg aggeeatgee eteeceaggg acegtetgea 200
geeteetget eeteggeatg etetggetgg acttggeeat ggeaggetee 250
agetteetga geeetgaaea eeagagagte eageagagaa aggagtegaa 300
gaageeaeea geeaagetge ageeeegage tetageagge tggeteegee 350
eggaagatgg aggteaagea gaaggggeag aggatgaaet ggaagteegg 400
tteaaegeee eetttgatgt tggaateaag etgteagggg tteagtacea 450
geageaeage eaggeeetgg ggaagttet teaggaeate etetgggaag 500
aggeeaaaga ggeeeeagee gaeaagtgat egeeeaeag eettaeteae 550
etetetetaa gtttagaage geteatetgg ettttegett gettetgeag 600
caacteeeae gaetgttgta eaageteagg aggegaataa atgtteaaae 650
tgta 654

<210> 268 <211> 117 <212> PRT

<213> Homo sapiens

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Ala Lys Leu Gln Pro Arg Ala Leu Ala Gly Trp Leu Arg Pro Glu Asp Gly Gly Gly Gln Ala Glu Asp Glu Leu Glu Val Arg 75

Phe Asn Ala Pro Phe Asp Val Gly Ile Lys Leu Ser Gly Val Gln 90

Tyr Gln Gln His Ser Gln Ala Leu Gly Lys Phe Leu Gln Asp Ile 105

Leu Trp Glu Glu Ala Lys Glu Ala Pro Ala Asp Lys 115
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<210> 269 <211> 1332 <212> DNA <213> Homo sapiens

<400> 269 cggccacage tggcatgete tgcctgateg ceatectget gtatgteete 50 gtccagtacc tcgtgaaccc cggggtgctc cgcacggacc ccagatgtca 100 agaatatgaa cacgtggctg ctgttcctcc ccctgttccc ggtgcaggtg 150 cagaccctga tagtcgtgat catcgggatg ctcgtgctcc tgctggactt 200 tettggettg gtgcacetgg geeagetget catetteeae atetacetga 250 gtatgtcccc caccctaagc ccccgatccc cccaaggctg ggtggtcaga 300 getgeteate ttacacetet acttgagtat gteectaace etgageeece 350 cacgcctggg gccagagtct ttgtcccccg tgtgcgcatg tgttcagggt 400 caqcctctcc cagaagtgag atcatggaca aaaagggcaa atcacaggaa 450 gaaattaaat ccatgaggac ccagcaggcc cagcaagaag ctgaactcac 500 gccgagacct gcaggagtgg tgccaggtgc ttgaagtaac aagtttaaaa 550 tgttcagaga caatggaatg gaatctatta ggcaagaaca ggacattatg 600 aaataaggac aggtggactt ccaaaaacac aagtagaaat tctaacaatg 650 aaatatatta caggcaggtc acccactaac caaacaactg aagcgagagc 700 tgtggtcttg cttggtctca cagtgggcac agcggtaggc ggtcagtcat 750 gttgctgaac gacggagggt aaactcccca gccccaagaa aacctgtgtt 800 ggaagtaaca acaacetece tgeteetgge accageegtt ttggteatgg 850 tgggccagct gcaaagcgtc ttccattctc tgggcagtgg tggccccgag 900 gctgtggcct ctcagggggt ttctgtggac acgggcagca gagtgtgtcc 950 aggccagccc ccaagaatgc cctgctcctg acagcttggc caacccctgg 1000 tcagggcaga gggagttggg tgggtcaggc tctgggctca cctccatctc 1050 cagagcatcc cctgcctgca gttgtggcaa gaacgcccag ctcagaatga 1100
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accactgtcc ccacacaacc ctggggatgt tttaaaacac acacctctaa 1200
cgcatatctt acagtcactg ttgtcttgcc tgagggttga attttttta 1250
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aaaaaaaaaa aaaaaaaaa aaaaaaaaa aa 1332

<210> 270

<211> 142

<212> PRT

<213> Homo sapiens

<400> 270

Met Asn Thr Trp Leu Leu Phe Leu Pro Leu Phe Pro Val Gln Val
1 5 10 15

Asp Phe Leu Gly Leu Val His Leu Gly Gln Leu Leu Ile Phe His 35 40 45

Ile Tyr Leu Ser Met Ser Pro Thr Leu Ser Pro Arg Ser Pro Gln 50 55 60

Gly Trp Val Val Arg Ala Ala His Leu Thr Pro Leu Leu Glu Tyr
65 70 75

Val Pro Asn Pro Glu Pro Pro Thr Pro Gly Ala Arg Val Phe Val 80 85 90

Pro Arg Val Arg Met Cys Ser Gly Ser Ala Ser Pro Arg Ser Glu 95 100 105

Ile Met Asp Lys Lys Gly Lys Ser Gln Glu Glu Ile Lys Ser Met
110 115 120

Arg Thr Gln Gln Ala Gln Gln Glu Ala Glu Leu Thr Pro Arg Pro 125 130 135

Ala Gly Val Val Pro Gly Ala 140

<210> 271

<211> 1484

<212> DNA

<213> Homo sapiens

<400> 271

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tcctgtgagg aaactgtgga agaaccaggg gagaggtgcc gaagtttcat 400
tgaacttaca ccaccagcca agagaggtga gaaaggacta ctggaatttg 450
ccacgttgca aggcccatgt caccccactc tccgatttgg agggaagcgg 500
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acgtctgctg attatcaaca tgtgcttaag ccaacatccg tctcttgagc 1250
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tectaaggga tteetgggtg ceaetgetet etttteetet acageteeat 1350
cttgtttcac ccaccccaca tctcacacat ccagaattcc cttctttact 1400
gatagtttct gtgccaggtt ctgggctaaa ccatggagat aaaaagaaga 1450
gtaaaataca cttcccgacc ttaaggatct gaaa 1484
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Leu Leu Ser Ala Ile Leu Ser Met Leu Ser Leu Ser Phe Ser Thr 20 25 30

Thr Ser Leu Leu Ser Asn Tyr Trp Phe Val Gly Thr Gln Lys Val

<210> 272

<211> 285

<212> PRT

<213> Homo sapiens

<400> 272

Met Ala Lys Met Glu Leu Ser Lys Ala Phe Ser Gly Gln Arg Thr 1 5 10 15

Pro	Lys	Pro	Leu	Cys	Glu	Lys	Gly	Leu		Ala	Lys	Cys	Phe	
				50					55					60
Met	Pro	Val	Ser	Leu 65	Asp	Gly	Asp	Thr	Asn 70	Thr	Ser	Thr	Gln	Glu 75
Val	Val	Gln	Tyr	Asn 80	Trp	Glu	Thr	Gly	Asp 85	Asp	Arg	Phe	Ser	Phe 90
Arg	Ser	Phe	Arg	Ser 95	Gly	Met	Trp	Leu	Ser 100	Cys	Glu	Glu	Thr	Val 105
Glu	Glu	Pro	Gly	Glu 110	Arg	Cys	Arg	Ser	Phe 115	Ile	Glu	Leu	Thr	Pro 120
Pro	Ala	Lys	Arg	Gly 125	Glu	Lys	Gly	Leu	Leu 130	Glu	Phe	Ala	Thr	Leu 135
Gln	Gly	Pro	Cys	His 140	Pro	Thr	Leu	Arg	Phe 145	Gly	Gly	Lys	Arg	Leu 150
Met	Glu	Lys	Ala	Ser 155	Leu	Pro	Ser	Pro	Pro 160	Leu	Gly	Leu	Cys	Gly 165
Lys	Asn	Pro	Met	Val 170	Ile	Pro	Gly	Asn	Ala 175	Asp	His	Leu	His	Arg 180
Thr	Ser	Ile	His	Gln 185	Leu	Pro	Pro	Ala	Thr 190	Asn	Arg	Leu	Ala	Thr 195
His	Trp	Glu	Pro	Cys 200	Leu	Trp	Ala	Gln	Thr 205	Glu	Arg	Leu	Cys	Cys 210
Cys	Phe	Leu	Cys	Pro 215	Val	Arg	Ser	Pro	Gly 220	Asp	Gly	Gly	Pro	His 225
Asp	Val	Phe	Thr	Ser 230	Leu	Pro	Ser	Asp	Cys 235	Gln	Leu	Gly	Ser	Arg 240
Arg	Leu	Glu	Thr	Thr 245	Суз	Leu	Glu	Leu	Trp 250	Leu	Gly	Leu	Leu	His 255
Gly	Leu	Ala	Leu	Leu 260	His	Leu	Leu	His	Gly 265	Val	Gly	Cys	His	His 270
Leu	Gln	His	Val	His 275	Gln	Asp	Gly	Ala	Gly 280	Val	Gln	Val	Gln	Ala 285

<210> 273

<211> 1158

<212> DNA

<213> Homo sapiens

<400> 273

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accaaccagg gtagtggcat ggagcaccgt aaccatctgt gcttctgtga 250 tetetatgae agageeactt etceaectet gaaatgttee etgetetgaa 300 atctggcatg agatggcaca ggtgaccacg cagaagccac cagaatcttg 350 cctgccctat tcctcctccc aagtctgttc tcttattgtc aacctcagca 400 caacaggctg gcgccaatgg cattacagag aaagcaatct gtgtggctag 450 tgggcagatt accatgcaag ccccaggaga aatggaggag ctttgtagcc 500 acctccctgt cagccagtat taacatgtcc ccttccccct gccccgccgt 550 agattcagga cattcgcccc tgtgtgccac caaaccagga ctttcccctt 600 ggcttggcat ccctggctct ctcctggtac ccagcaagac gtctgttcca 650 gggcagtgta gcatctttca agctccgtta ctatggcgat ggccatgatg 700 ttacaatccc acttgcctga ataatcaagt gggaagggga agcagaggga 750 aatggggcca tgtgaatgca gctgctctgt tctccctacc ctgaggaaaa 800 accaaaggga agcaacagga acttctgcaa ctggttttta tcggaaagat 850 catcctgcct gcagatgctg ttgaaggggc acaagaaatg tagctggaga 900 agattgatga aagtgcaggt gtgtaaggaa atagaacagt ctgctgggag 950 tcagacctgg aattctgatt ccaaactctt tattactttg ggaagtcact 1000 cagcetecee gtagecatet ccagggtgae ggaacecagt gtattacetg 1050 ctggaaccaa ggaaactaac aatgtaggtt actagtgaat accccaatgg 1100 tttctccaat tatgcccatg ccaccaaaac aataaaacaa aattctctaa 1150 cactgaaa 1158

<210> 274

<211> 86

<212> PRT

<213> Homo sapiens

<400> 274

Met Trp Leu Pro Leu Gly Leu Leu Ser Leu Cys Leu Ser Pro Leu
1 5 10 15

Pro Ile Leu Ser Ser Pro Ser Leu Lys Ser Gln Ala Cys Gln Gln $20 \hspace{1cm} 25 \hspace{1cm} 30$

Leu Leu Trp Thr Leu Pro Ser Pro Leu Val Ala Phe Arg Ala Asn 35 40 45

Arg Thr Thr Tyr Val Met Asp Val Ser Thr Asn Gln Gly Ser Gly 50 55 60

Met Glu His Arg Asn His Leu Cys Phe Cys Asp Leu Tyr Asp Arg
65 70 75

Ala Thr Ser Pro Pro Leu Lys Cys Ser Leu Leu 80 85

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<211> 131

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35 40 45

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Ala Met Ser Asn Ala Cys Lys Glu Leu Ala Ile Phe Leu Thr Thr 65 70 75

Gly Ile Val Val Ser Ala Phe Gly Leu Pro Ile Val Phe Ala Arg $80 \ 85 \ 90$

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<211> 4104

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<213> Homo sapiens

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280

275

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Gln Leu Asp Ser Asn Arg Leu Thr Tyr Ile Glu Pro Arg Ile Leu
Asn Ser Trp Lys Ser Leu Thr Ser Ile Thr Leu Ala Gly Asn Leu
Trp Asp Cys Gly Arg Asn Val Cys Ala Leu Ala Ser Trp Leu Ser
Asn Phe Gln Gly Arg Tyr Asp Gly Asn Leu Gln Cys Ala Ser Pro
Glu Tyr Ala Gln Gly Glu Asp Val Leu Asp Ala Val Tyr Ala Phe
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His Leu Cys Glu Asp Gly Ala Glu Pro Thr Ser Gly His Leu Leu
Ser Ala Val Thr Asn Arg Ser Asp Leu Gly Pro Pro Ala Ser Ser
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Ala Thr Thr Leu Ala Asp Gly Gly Glu Gly Gln His Asp Gly Thr
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Phe Glu Pro Ala Thr Val Ala Leu Pro Gly Gly Glu His Ala Glu
                410
Asn Ala Val Gln Ile His Lys Val Val Thr Gly Thr Met Ala Leu
Ile Phe Ser Phe Leu Ile Val Val Leu Val Leu Tyr Val Ser Trp
                 440
Lys Cys Phe Pro Ala Ser Leu Arg Gln Leu Arg Gln Cys Phe Val
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Thr Gln Arg Arg Lys Gln Lys Gln Lys Gln Thr Met His Gln Met
Ala Ala Met Ser Ala Gln Glu Tyr Tyr Val Asp Tyr Lys Pro Asn
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His Ile Glu Gly Ala Leu Val Ile Ile Asn Glu Tyr Gly Ser Cys
Thr Cys His Gln Gln Pro Ala Arg Glu Cys Glu Val
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- <211> 46
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- <213> Artificial Sequence
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- <210> 280
- <211> 709
- <212> DNA
- <213> Homo sapiens

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<211> 229

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Asp Val Ala Ala Asn Trp Ser Gln Asn Arg Thr Pro Cys Ala Gly 35 40 45

Gly Ala Val Glu Phe Pro Ala Asp Lys Met Val Ser Val Leu Val 50 55 60

Gln Glu Gly His Ala Val Ser Asp Met Leu Leu Pro Leu Asp Gly
65 70 75

Glu Leu Val Leu Ala Ser Gly Ala Gly Phe Gly Val Ser Asp Val 80 85 90

Gly Ser His Leu Asp Cys Gly Ala Gly Glu Pro Ala Val Phe Arg 95 100 105

Asp Ser Asp Arg Phe Ser Trp His Asp Pro His Leu Trp Arg Ser 110 115 120

Gly Asp Glu Ala Pro Gly Leu Phe Phe Val Asp Ala Glu Arg Val 125 130 135

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Leu Leu Gln Pro

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<212> DNA

<213> Homo sapiens

<210> 283

<211> 77

<212> PRT

<213> Homo sapiens

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Leu Ala

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<211> 477 <212> PRT <213> Homo sapiens

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	290				295					300
Val Pro Glu	Arg Trp 305	His Ty	r Lys	Tyr	Asn 310	Ser	Arg	Ile	Gln	Pro 315
Ile Ile Ala	Val Ala 320	Asp Gl	u Gly	Trp	His 325	Ile	Leu	Gln	Asn	Lys 330
Ser Asp Asp	Phe Leu 335	Leu Gl	y Asn	His	Gly 340	Tyr	Asp	Asn	Ala	Leu 345
Ala Asp Met	His Pro 350	Ile Ph	ne Leu	Ala	His 355	Gly	Pro	Ala	Phe	Arg 360
Lys Asn Phe	Ser Lys 365	Glu Al	a Met	Asn	Ser 370	Thr	Asp	Leu	Tyr	Pro 375
Leu Leu Cys	His Leu 380	Leu As	sn Ile	Thr	Ala 385	Met	Pro	His	Asn	Gly 390
Ser Phe Trp	Asn Val 395	Gln As	sp Leu	Leu	Asn 400	Ser	Ala	Met	Pro	Arg 405
Val Val Pro	Tyr Thr 410	Gln Se	er Thr	Ile	Leu 415	Leu	Pro	Gly	Ser	Val 420
Lys Pro Ala	Glu Tyr 425		ln Glu	Gly	Ser 430	Tyr	Pro	Tyr	Phe	Ile 435
Gly Val Ser	Leu Gly 440		le Ile	Val	Ile 445	Val	Phe	Phe	Val	Ile 450
Phe Ile Lys	His Leu 455		is Ser	Gln	Ile 460	Pro	Ala	Leu	Gln	Asp 465
Met His Ala	Glu Ile 470		ln Pro	Leu	Leu 475	Gln	Ala			

<210> 286

<211> 1337

<212> DNA

<400> 286

<213> Homo sapiens

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teacacagee aaaggaggea gageeagaae teacaaccag ateeagagge 200
aacagggaca tggeeacetg ggacgaaaag geagteacee geagggeeaa 250
ggtggeteee getgagagga tgageaagtt ettaaggeae tteacggteg 300
tgggagaega etaceatgee tggaacatea actacaagaa atgggagaat 350

ggatttttgt gatccgcgat tcgctcccac gggcgggacc tttgtaactg 50

cgaggaaggc agagctgcag cccctgacgt tgcccctgcc cctggccccg 450

cacccagggc cccccttgac ttcaggggca tgttgaggaa actgttcagc 500

tcccacaggt ttcaggtcat catcatctgc ttggtggttc tggatgccct 550 cctggtgctt gctgagctca tcctggacct gaagatcatc cagcccgaca 600 agaataacta tgctgccatg gtattccact acatgagcat caccatcttg 650 gtctttttta tgatggagat catctttaaa ttatttgtct tccgcctgag 700 ttctttcacc acaagtttga gatcctggat gcccgtcgtg gtggtggtct 750 cattcatcct ggacattgtc ctcctgttcc aggagcacca gtttgaggct 800 ctgggcctgc tgattctgct ccggctgtgg cgggtggccc ggatcatcaa 850 tgggattatc atctcagtta agacacgttc agaacggcaa ctcttaaggt 900 taaaacagat gaatgtacaa ttggccgcca agattcaaca ccttgagttc 950 agctgctctg agaagcccct ggactgatga gtttgctgta tcaacctgta 1000 aggagaaget eteteeggat ggetatggga atgaaagaat eegaetteta 1050 ctctcacaca gccaccgtga aagtcctgga gtaaaatgtg ctgtgtacag 1100 aagagagaga aggaagcagg ctggcatgtt cactgggctg gtgttacgac 1150 agagaacctg acagtcactg gccagttatc acttcagatt acaaatcaca 1200 cagagcatct gcctgttttc aatcacaaga gaacaaaacc aaaatctata 1250 aagatattct gaaaatatga cagaatttga caaataaaag cataaacgtg 1300 taaaaaaaaa aaaaaaaaa aaaaaaaa 1337

<210> 287

<211> 255

<212> PRT

<213> Homo sapiens

<400> 287

Met Ala Thr Trp Asp Glu Lys Ala Val Thr Arg Arg Ala Lys Val 1 5 10 15

Ala Pro Ala Glu Arg Met Ser Lys Phe Leu Arg His Phe Thr Val 20 25 30

Val Gly Asp Asp Tyr His Ala Trp Asn Ile Asn Tyr Lys Lys Trp 35 40 45

Glu Asn Glu Glu Glu Glu Glu Glu Glu Glu Gln Pro Pro Pro Thr 50 55 60

Pro Val Ser Gly Glu Glu Gly Arg Ala Ala Ala Pro Asp Val Ala 65 70 75

Pro Ala Pro Gly Pro Ala Pro Arg Ala Pro Leu Asp Phe Arg Gly 80 85 90

Met Leu Arg Lys Leu Phe Ser Ser His Arg Phe Gln Val Ile Ile 95 100 105

Ile Cys Leu Val Val Leu Asp Ala Leu Leu Val Leu Ala Glu Leu 110 115 120

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IleLeuAspLeuLys<br/>125IleIleGlnProAsp<br/>130LysAsnAsnTyrAla<br/>135AlaMetValPheHis<br/>140TyrMetSerIleThr<br/>145IleLeuValPhePhe<br/>150MetMetGluIleIleLysLeuPheValPheArgLeuSer165PheThrThrSerLeuArgSerTrpMetPro<br/>190ValValValValValSerPheIleLeuAspIleValLeuPhePheIleIleIleIleIleArgIleIleArgIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIleIle</t
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<210> 288

<211> 3334

<212> DNA

<213> Homo sapiens

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actcagatga ttcgagaagg aggggccagg tcactctggc ggggcaatgg 800 catcaacgtc ctcaaaattg cccccgaatc agccatcaaa ttcatggcct 850 atgagcagat caagcgcctt gttggtagtg accaggagac tctgaggatt 900 cacgagaggc ttgtggcagg gtccttggca ggggccatcg cccagagcag 950 catctaccca atggaggtcc tgaagacccg gatggcgctg cggaagacag 1000 gccagtactc aggaatgctg gactgcgcca ggaggatcct ggccagagag 1050 ggggtggccg ccttctacaa aggctatgtc cccaacatgc tgggcatcat 1100 cccctatgcc ggcatcgacc ttgcagtcta cgagacgctc aagaatgcct 1150 ggctgcagca ctatgcagtg aacagcgcgg accccggcgt gtttgtgctc 1200 ctggcctgtg gcaccatgtc cagtacctgt ggccagctgg ccagctaccc 1250 cctggcccta gtcaggaccc ggatgcaggc gcaagcctct attgagggcg 1300 ctccggaggt gaccatgagc agcctcttca aacatatcct gcggaccgag 1350 ggggccttcg ggctgtacag ggggctggcc cccaacttca tgaaggtcat 1400 cccagctgtg agcatcagct acgtggtcta cgagaacctg aagatcaccc 1450 tgggcgtgca gtcgcggtga cggggggagg gccgcccggc agtggactcg 1500 ctgatcctgg gccgcagcct ggggtgtgca gccatctcat tctgtgaatg 1550 tgccaacact aagctgtctc gagccaagct gtgaaaaccc tagacgcacc 1600 cgcagggagg gtggggagag ctggcaggcc cagggcttgt cctgctgacc 1650 ccagcagacc ctcctgttgg ttccagcgaa gaccacaggc attccttagg 1700 gtccagggtc agcaggctcc gggctcacat gtgtaaggac aggacatttt 1750 ctgcagtgcc tgccaatagt gagcttggag cctggaggcc ggcttagttc 1800 ttccatttca cccttgcage cagctgttgg ccacggcccc tgccctctgg 1850 tetgeegtge atetecetgt gecetettge tgeetgeetg tetgetgagg 1900 taaggtggga ggagggctac agcccacatc ccaccccctc gtccaatccc 1950 ataatccatg atgaaaggtg aggtcacgtg gcctcccagg cctgacttcc 2000 caacctacag cattgacgcc aacttggctg tgaaggaaga ggaaaggatc 2050 tggccttgtg gtcactggca tctgagccct gctgatggct ggggctctcg 2100 ggcatgcttg ggagtgcagg gggctcgggc tgcctggcct ggctgcacag 2150 aaggcaagtg ctggggctca tggtgctctg agctggcctg gaccctgtca 2200 ggatgggccc cacctcagaa ccaaactcac tgtccccact gtggcatgag 2250 ggcagtggag caccatgttt gagggcgaag ggcagagcgt ttgtgtgttc 2300 tggggaggga aggaaaaggt gttggaggcc ttaattatgg actgttggga 2350 aaagggtttt gtccagaagg acaagccgga caaatgagcg acttctgtgc 2400 ttccagagga agacgaggga gcaggagctt ggctgactgc tcagagtctg 2450 ttctgacgcc ctgggggttc ctgtccaacc ccagcagggg cgcagcggga 2500 ccagccccac attccacttg tgtcactgct tggaacctat ttattttgta 2550 tttatttgaa cagagttatg tcctaactat ttttatagat ttgtttaatt 2600 aatagcttgt cattttcaag ttcattttt attcatattt atgttcatgg 2650 ttgattgtac cttcccaagc ccgcccagtg ggatgggagg aggaggagaa 2700 ggggggcctt gggccgctgc agtcacatct gtccagagaa attccttttg 2750 ggactggagg cagaaaagcg gccagaaggc agcagccctg gctcctttcc 2800 tttggcaggt tggggaaggg cttgccccca gccttaggat ttcagggttt 2850 gactgggggc gtggagaga agggaggaac ctcaataacc ttgaaggtgg 2900 aatccagtta tttcctgcgc tgcgagggtt tctttatttc actcttttct 2950 gaatgtcaag gcagtgaggt gcctctcact gtgaatttgt ggtgggcggg 3000 ggctggagga gagggtgggg ggctggctcc gtccctccca gccttctgct 3050 gcccttgctt aacaatgccg gccaactggc gacctcacgg ttgcacttcc 3100 attccaccag aatgacctga tgaggaaatc ttcaatagga tgcaaagatc 3150 aatgcaaaaa ttgttatata tgaacatata actggagtcg tcaaaaagca 3200 aattaagaaa gaattggacg ttagaagttg tcatttaaag cagccttcta 3250 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaa 3334

<210> 289

<211> 469

<212> PRT

<213> Homo sapiens

Thr Glu Phe Gln Tyr Phe Glu Ser Lys Gly Leu Pro Ala Glu Leu 20 25 30

Lys Ser Ile Phe Lys Leu Ser Val Phe Ile Pro Ser Gln Glu Phe 35 40 45

Ser Thr Tyr Arg Gln Trp Lys Gln Lys Ile Val Gln Ala Gly Asp $50 \,$ 55 $\,$ 60

Lys Asp Leu Asp Gly Gln Leu Asp Phe Glu Glu Phe Val His Tyr
65 70 75

Leu Gln Asp His Glu Lys Lys Leu Arg Leu Val Phe Lys Ile Leu 80 85 90 Asp Lys Lys Asn Asp Gly Arg Ile Asp Ala Gln Glu Ile Met Gln Ser Leu Arg Asp Leu Gly Val Lys Ile Ser Glu Gln Gln Ala Glu Lys Ile Leu Lys Ser Met Asp Lys Asn Gly Thr Met Thr Ile Asp 135 130 Trp Asn Glu Trp Arg Asp Tyr His Leu Leu His Pro Val Glu Asn 140 Ile Pro Glu Ile Ile Leu Tyr Trp Lys His Ser Thr Ile Phe Asp 165 155 Val Gly Glu Asn Leu Thr Val Pro Asp Glu Phe Thr Val Glu Glu Arg Gln Thr Gly Met Trp Trp Arg His Leu Val Ala Gly Gly Gly 195 Ala Gly Ala Val Ser Arg Thr Cys Thr Ala Pro Leu Asp Arg Leu Lys Val Leu Met Gln Val His Ala Ser Arg Ser Asn Asn Met Gly Ile Val Gly Gly Phe Thr Gln Met Ile Arg Glu Gly Gly Ala Arg 240 Ser Leu Trp Arg Gly Asn Gly Ile Asn Val Leu Lys Ile Ala Pro Glu Ser Ala Ile Lys Phe Met Ala Tyr Glu Gln Ile Lys Arg Leu 265 Val Gly Ser Asp Gln Glu Thr Leu Arg Ile His Glu Arg Leu Val 285 Ala Gly Ser Leu Ala Gly Ala Ile Ala Gln Ser Ser Ile Tyr Pro 290 Met Glu Val Leu Lys Thr Arg Met Ala Leu Arg Lys Thr Gly Gln Tyr Ser Gly Met Leu Asp Cys Ala Arg Arg Ile Leu Ala Arg Glu 330 Gly Val Ala Ala Phe Tyr Lys Gly Tyr Val Pro Asn Met Leu Gly 345 335 Ile Ile Pro Tyr Ala Gly Ile Asp Leu Ala Val Tyr Glu Thr Leu Lys Asn Ala Trp Leu Gln His Tyr Ala Val Asn Ser Ala Asp Pro 375 365 370 Gly Val Phe Val Leu Leu Ala Cys Gly Thr Met Ser Ser Thr Cys Gly Gln Leu Ala Ser Tyr Pro Leu Ala Leu Val Arg Thr Arg Met 395

Gln Ala Gln Ala Ser Ile Glu Gly Ala Pro Glu Val Thr Met Ser Ser Leu Phe Lys His Ile Leu Arg Thr Glu Gly Ala Phe Gly Leu Tyr Arg Gly Leu Ala Pro Asn Phe Met Lys Val Ile Pro Ala Val 445 Ser Ile Ser Tyr Val Val Tyr Glu Asn Leu Lys Ile Thr Leu Gly

Val Gln Ser Arg

<210> 290 <211> 1658 <212> DNA <213> Homo sapiens

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<210> 291

<211> 282

<212> PRT

<213> Homo sapiens

<400> 291

Met Ala Ser Leu Gly Gln Ile Leu Phe Trp Ser Ile Ile Ser Ile 1 5 10 15

Ile Ile Ile Leu Ala Gly Ala Ile Ala Leu Ile Ile Gly Phe Gly 20 25 30

Ile Ser Gly Arg His Ser Ile Thr Val Thr Thr Val Ala Ser Ala 35 40 45

Gly Asn Ile Gly Glu Asp Gly Ile Leu Ser Cys Thr Phe Glu Pro 50 55 60

Asp Ile Lys Leu Ser Asp Ile Val Ile Gln Trp Leu Lys Glu Gly
65 70 75

Val Leu Gly Leu Val His Glu Phe Lys Glu Gly Lys Asp Glu Leu 80 85 90

Ser Glu Gln Asp Glu Met Phe Arg Gly Arg Thr Ala Val Phe Ala 95 100 105

Asp Gln Val Ile Val Gly Asn Ala Ser Leu Arg Leu Lys Asn Val 110 115 120

Gln Leu Thr Asp Ala Gly Thr Tyr Lys Cys Tyr Ile Ile Thr Ser 125 130 135

Lys Gly Lys Gly Asn Ala Asn Leu Glu Tyr Lys Thr Gly Ala Phe \$140\$

Ser Met Pro Glu Val Asn Val Asp Tyr Asn Ala Ser Ser Glu Thr

				155					160					165
Leu	Arg	Cys	Glu	Ala 170	Pro	Arg	Trp	Phe	Pro 175	Gln	Pro	Thr	Val	Val 180
Trp	Ala	Ser	Gln	Val 185	Asp	Gln	Gly	Ala	Asn 190	Phe	Ser	Glu	Val	Ser 195
Asn	Thr	Ser	Phe	Glu 200	Leu	Asn	Ser	Glu	Asn 205	Val	Thr	Met	Lys	Val 210
Val	Ser	Val	Leu	Tyr 215	Asn	Val	Thr	Ile	Asn 220	Asn	Thr	Tyr	Ser	Cys 225
Met	Ile	Glu	Asn	Asp 230	Ile	Ala	Lys	Ala	Thr 235	Gly	Asp	Ile	Lys	Val 240
Thr	Glu	Ser	Glu	Ile 245	Lys	Arg	Arg	Ser	His 250	Leu	Gln	Leu	Leu	Asn 255
Ser	Lys	Ala	Ser	Leu 260	Cys	Val	Ser	Ser	Phe 265	Phe	Ala	Ile	Ser	Trp 270
Ala	Leu	Leu	Pro	Leu 275	Ser	Pro	Tyr	Leu	Met 280	Leu	Lys			

<210> 292 <211> 1484 <212> DNA <213> Homo sapiens

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<211> 180

<212> PRT

<213> Homo sapiens

<400> 293

Met Ala Ala Ser Leu Gly Gln Val Leu Ala Leu Val Leu Val Ala 1 5 10 15

Ala Leu Trp Gly Gly Thr Gln Pro Leu Leu Lys Arg Ala Ser Ala 20 25 30

Gly Leu Gln Arg Val His Glu Pro Thr Trp Ala Gln Gln Leu Leu
35 40 45

Gln Glu Met Lys Thr Leu Phe Leu Asn Thr Glu Tyr Leu Met Pro
50 55 60

Phe Leu Leu Asn Gln Cys Gly Ser Leu Leu Tyr Tyr Leu Thr Leu 65 70 75

Ala Ser Thr Asp Leu Thr Leu Ala Val Pro Ile Cys Asn Ser Leu 80 85 90

Ala Ile Ile Phe Thr Leu Ile Val Gly Lys Ala Leu Gly Glu Asp 95 100 105

Ile Gly Gly Lys Arg Lys Leu Asp Tyr Cys Glu Cys Gly Thr Gln
110 115 120

Leu Cys Gly Ser Arg His Thr Cys Val Ser Ser Phe Pro Glu Pro 125 130 135

Ile Ser Pro Glu Trp Val Arg Thr Arg Pro Phe Pro Ile Leu Pro 140 145 150 Phe Pro Leu Gln Leu Phe Cys Phe Leu Val Ala Ile Arg Val Pro 155 160 165

Phe Pro Trp Thr Val Trp Arg Lys Thr Glu Ala Gly Val Trp Asp 170 175 180

<400> 294 cttctgtagg acagtcacca ggccagatcc agaagcctct ctaggctcca 50 gctttctctg tggaagatga cagcaattat agcaggaccc tgccaggctg 100 tcgaaaagat tccgcaataa aactttgcca gtgggaagta cctagtgaaa 150 cggcctaaga tgccacttct tctcatgtcc caggcttgag gccctgtggt 200 ccccatcctt gggagaagtc agctccagca ccatgaaggg catcctcgtt 250 gctggtatca ctgcagtgct tgttgcagct gtagaatctc tgagctgcgt 300 gcagtgtaat tcatgggaaa aatcctgtgt caacagcatt gcctctgaat 350 gtccctcaca tgccaacacc agctgtatca gctcctcagc cagctcctct 400 ctagagacac cagtcagatt ataccagaat atgttctgct cagcggagaa 450 ctgcagtgag gagacacaca ttacagcctt cactgtccac gtgtctgctg 500 aagaacactt tcattttgta agccagtgct gccaaggaaa ggaatgcagc 550 aacaccagcg atgccctgga ccctcccctg aagaacgtgt ccagcaacgc 600 agagtgccct gcttgttatg aatctaatgg aacttcctgt cgtgggaagc 650 cctggaaatg ctatgaagaa gaacagtgtg tctttctagt tgcagaactt 700 aagaatgaca ttgagtctaa gagtctcgtg ctgaaaggct gttccaacgt 750 cagtaacgcc acctgtcagt tcctgtctgg tgaaaacaag actcttggag 800 gagtcatctt tcgaaagttt gagtgtgcaa atgtaaacag cttaaccccc 850 acgtctgcac caaccacttc ccacaacgtg ggctccaaag cttccctcta 900 cctcttggcc cttgccagcc tccttcttcg gggactgctg ccctgaggtc 950. ctggggctgc actttgccca gcaccccatt tctgcttctc tgaggtccag 1000 agcacccct gcggtgctga caccctcttt ccctgctctg ccccgtttaa 1050 ctgcccagta agtgggagtc acaggtctcc aggcaatgcc gacagctgcc 1100 aaaaaaaaa aaaa 1164

<210> 294

<211> 1164

<212> DNA

<213> Homo sapiens

<210> 295

<211> 237

<212> PRT

<213> Homo sapiens

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<400> 295
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Ala Val Glu Ser Leu Ser Cys Val Gln Cys Asn Ser Trp Glu Lys
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 Ser Cys Val Asn Ser Ile Ala Ser Glu Cys Pro Ser His Ala Asn
 Thr Ser Cys Ile Ser Ser Ser Ala Ser Ser Ser Leu Glu Thr Pro
 Val Arg Leu Tyr Gln Asn Met Phe Cys Ser Ala Glu Asn Cys Ser
 Glu Glu Thr His Ile Thr Ala Phe Thr Val His Val Ser Ala Glu
 Glu His Phe His Phe Val Ser Gln Cys Cys Gln Gly Lys Glu Cys
 Ser Asn Thr Ser Asp Ala Leu Asp Pro Pro Leu Lys Asn Val Ser
 Ser Asn Ala Glu Cys Pro Ala Cys Tyr Glu Ser Asn Gly Thr Ser
                                                          135
                                      130
 Cys Arg Gly Lys Pro Trp Lys Cys Tyr Glu Glu Glu Gln Cys Val
                 140
 Phe Leu Val Ala Glu Leu Lys Asn Asp Ile Glu Ser Lys Ser Leu
                                                          165
                                      160
 Val Leu Lys Gly Cys Ser Asn Val Ser Asn Ala Thr Cys Gln Phe
                                      175
 Leu Ser Gly Glu Asn Lys Thr Leu Gly Gly Val Ile Phe Arg Lys
                 185
 Phe Glu Cys Ala Asn Val Asn Ser Leu Thr Pro Thr Ser Ala Pro
                                                          210
 Thr Thr Ser His Asn Val Gly Ser Lys Ala Ser Leu Tyr Leu Leu
                                      220
 Ala Leu Ala Ser Leu Leu Leu Arg Gly Leu Leu Pro
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<210> 296

<211> 1245

<212> DNA

<213> Homo sapiens

<400> 296

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ccagccccat ggtccccgcc gccggcgcgc tgctgtgggt cctgctgctg 150

aatctgggtc cccgggcggc gggggcccaa ggcctgaccc agactccgac 200 cgaaatgcag cgggtcagtt tacgctttgg gggccccatg acccgcagct 250 accggagcac cgcccggact ggtcttcccc ggaagacaag gataatccta 300 gaggacgaga atgatgccat ggccgacgcc gaccgcctgg ctggaccagc 350 ggctgccgag ctcttggccg ccacggtgtc caccggcttt agccggtcgt 400 ccgccattaa cgaggaggat gggtcttcag aagagggggt tgtgattaat 450 gccggaaagg atagcaccag cagagagctt cccagtgcga ctcccaatac 500 agcggggagt tccagcacga ggtttatagc caatagtcag gagcctgaaa 550 teaggetgae tteaageetg eegegeteee eegggaggte tactgaggae 600 ctgccaggct cgcaggccac cctgagccag tggtccacac ctgggtctac 650 cccgagccgg tggccgtcac cctcacccac agccatgcca tctcctgagg 700 atctgcggct ggtgctgatg ccctggggcc cgtggcactg ccactgcaag 750 tegggcacca tgageeggag eeggtetggg aagetgeaeg geettteegg 800 gegeettega gttggggege tgageeaget eegeaeggag cacaageett 850 gcacctatca acaatgtccc tgcaaccgac ttcgggaaga gtgccccctg 900 gacacaagtc tctgtactga caccaactgt gcctctcaga gcaccaccag 950 taccaggace accactacce cettececae catecacete agaageagte 1000 ccagcctgcc acccgccagc ccctgcccag ccctggcttt ttggaaacgg 1050 gtcaggattg gcctggagga tatttggaat agcctctctt cagtgttcac 1100 agagatgcaa ccaatagaca gaaaccagag gtaatggcca cttcatccac 1150 atgaggagat gtcagtatct caacctctct tgccctttca atcctagcac 1200 ccactagata tttttagtac agaaaaacaa aactggaaaa cacaa 1245

Arg Ile Ile Leu Glu Asp Glu Asn Asp Ala Met Ala Asp Ala Asp

<210> 297

<211> 341

<212> PRT

<213> Homo sapiens

<400> 297

Met Val Pro Ala Ala Gly Ala Leu Leu Trp Val Leu Leu Asn 1 5 10 15

Leu Gly Pro Arg Ala Ala Gly Ala Gln Gly Leu Thr Gln Thr Pro
20 25 30

Thr Glu Met Gln Arg Val Ser Leu Arg Phe Gly Gly Pro Met Thr 35 40 45

75 65 70

Arg	Leu	Ala	Gly	Pro 80	Ala	Ala	Ala	Glu	Leu 85	Leu	Ala	Ala	Thr	Val 90
Ser	Thr	Gly	Phe	Ser 95	Arg	Ser	Ser	Ala	Ile 100	Asn	Glu	Glu	Asp	Gly 105
Ser	Ser	Glu	Glu	Gly 110	Val	Val	Ile	Asn	Ala 115	Gly	Lys	Asp	Ser	Thr 120
Ser	Arg	Glu	Leu	Pro 125	Ser	Ala	Thr	Pro	Asn 130	Thr	Ala	Gly	Ser	Ser 135
Ser	Thr	Arg	Phe	Ile 140	Ala	Asn	Ser	Gln	Glu 145	Pro	Glu	Ile	Arg	Leu 150
Thr	Ser	Ser	Leu	Pro 155	Arg	Ser	Pro	Gly	Arg 160	Ser	Thr	Glu	Asp	Leu 165
Pro	Gly	Ser	Gln	Ala 170	Thr	Leu	Ser	Gln	Trp 175	Ser	Thr	Pro	Gly	Ser 180
Thr	Pro	Ser	Arg	Trp 185	Pro	Ser	Pro	Ser	Pro 190	Thr	Ala	Met	Pro	Ser 195
Pro	Glu	Asp	Leu	Arg 200	Leu	Val	Leu	Met	Pro 205	Trp	Gly	Pro	Trp	His 210
Cys	His	Cys	Lys	Ser 215	Gly	Thr	Met	Ser	Arg 220	Ser	Arg	Ser	Gly	Lys 225
Leu	His	Gly	Leu	Ser 230	Gly	Arg	Leu	Arg	Val 235	Gly	Ala	Leu	Ser	Gln 240
Leu	Arg	Thr	Glu	His 245	Lys	Pro	Cys	Thr	Tyr 250	Gln	Gln	Cys	Pro	Cys 255
Asn	Arg	Leu	Arg	Glu 260	Glu	Cys	Pro	Leu	Asp 265	Thr	Ser	Leu	Cys	Thr 270
Asp	Thr	Asn	Cys	Ala 275	Ser	Gln	Ser	Thr	Thr 280	Ser	Thr	Arg	Thr	Thr 285
Thr	Thr	Pro	Phe	Pro 290		Ile	His	Leu	Arg 295	Ser	Ser	Pro	Ser	Leu 300
Pro	Pro	Ala	Ser	Pro 305	Суз	Pro	Ala	Leu	Ala 310	Phe	Trp	Lys	Arg	Val 315
Arg	Ile	Gly	Leu	Glu 320		Ile	Trp	Asn	Ser 325	Leu	Ser	Ser	Val	Phe 330
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<211> 320

<212> PRT

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Leu Asn His Phe Arg Ser Arg Gln Pro Ile Tyr Met Ser Leu Ala 50 55 60

Gly Trp Thr Cys Arg Asp Asp Cys Lys Tyr Glu Cys Met Trp Val 65 70 75

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Met Leu Cys Arg Tyr Arg Thr Phe Val Pro Ala Ser Ser Pro Met
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Tyr His Thr Cys Val Ala Phe Ala Trp Val Ser Leu Asn Ala Trp
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Phe Trp Ser Thr Val Phe His Thr Arg Asp Thr Asp Leu Thr Glu
Lys Met Asp Tyr Phe Cys Ala Ser Thr Val Ile Leu His Ser Ile
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Val Ser Ala Phe Arg Ala Leu Leu Leu Leu Met Leu Thr Val His
Val Ser Tyr Leu Ser Leu Ile Arg Phe Asp Tyr Gly Tyr Asn Leu
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Val Ala Asn Val Ala Ile Gly Leu Val Asn Val Val Trp Trp Leu
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Ala Trp Cys Leu Trp Asn Gln Arg Arg Leu Pro His Val Arg Lys
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                                     250
Cys Val Val Val Leu Leu Leu Gln Gly Leu Ser Leu Leu Glu
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Leu Leu Asp Phe Pro Pro Leu Phe Trp Val Leu Asp Ala His Ala
                                     280
                 275
Ile Trp His Ile Ser Thr Ile Pro Val His Val Leu Phe Phe Ser
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<212> DNA

<213> Homo sapiens

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<211> 461 <212> PRT <213> Homo sapiens

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300 295 290 Pro Tyr Ala Gln Arg Gln Phe Leu Lys Leu Gly Gly Leu Gln Val Leu Arg Thr Leu Val Gln Glu Lys Gly Thr Glu Val Leu Ala Val Arg Val Val Thr Leu Leu Tyr Asp Leu Val Thr Glu Lys Met Phe 345 340 Ala Glu Glu Glu Ala Glu Leu Thr Gln Glu Met Ser Pro Glu Lys Leu Gln Gln Tyr Arg Gln Val His Leu Leu Pro Gly Leu Trp Glu Gln Gly Trp Cys Glu Ile Thr Ala His Leu Leu Ala Leu Pro Glu His Asp Ala Arg Glu Lys Val Leu Gln Thr Leu Gly Val Leu Leu 400 Thr Thr Cys Arg Asp Arg Tyr Arg Gln Asp Pro Gln Leu Gly Arg 410 Thr Leu Ala Ser Leu Gln Ala Glu Tyr Gln Val Leu Ala Ser Leu Glu Leu Gln Asp Gly Glu Asp Glu Gly Tyr Phe Gln Glu Leu Leu 445 440 Gly Ser Val Asn Ser Leu Leu Lys Glu Leu Arg 455 <210> 302

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 Tyr Lys Leu Leu Lys Lys Ala Asp Glu Gly Leu Ala Ser Leu Ser
 Glu Asp Gly Arg Ser Pro Ile Ser Ile Arg Gln Met Ala Tyr Val
 Ser Gly Leu Ser Phe Gly Ile Ile Ser Gly Val Phe Ser Val Ile
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 Asn Ile Leu Ala Asp Ala Leu Gly Pro Gly Val Val Gly Ile His
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 Ala Ile Ile Leu Leu His Thr Phe Trp Gly Val Val Phe Phe Asp
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 Ser His Leu Leu Thr Ser Gly Leu Thr Phe Leu Asn Pro Trp Tyr
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<213> Homo sapiens

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<212> DNA

<213> Homo sapiens

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<212> PRT

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<213> Homo sapiens

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<211> 280

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<213> Homo sapiens

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<211> 468

<212> DNA

<213> Homo sapiens

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Ala	Gly	Glu	Gly	Ala 80	Gly	Glu	Asn	Trp	Glu 85	Pro	Arg	Val	Leu	Pro 90
Tyr	His	Pro	Ala	Gln 95	Pro	Gly	Gln	Ala	Ala 100	Lys	Lys	Ala	Val	Arg 105
Thr	Arg	Tyr	Ile	Ser 110	Thr	Glu	Leu	Gly	Ile 115	Arg	Gln	Arg	Leu	Leu 120
Val	Ala	Val	Leu	Thr 125	Ser	Gln	Thr	Thr	Leu 130	Pro	Thr	Leu	Gly	Val 135
Ala	Val	Asn	Arg	Thr 140	Leu	Gly	His	Arg	Leu 145	Glu	Arg	Val	Val	Phe 150
Leu	Thr	Gly	Ala	Arg 155	Gly	Arg	Arg	Ala	Pro 160	Pro	Gly	Met	Ala	Val 165
Val	Thr	Leu	Gly	Glu 170	Glu	Arg	Pro	Ile	Gly 175	His	Leu	His	Leu	Ala 180
Leu	Arg	His	Leu	Leu 185	Glu	Gln	His	Gly	Asp 190	Asp	Phe	Asp	Trp	Phe 195
Phe	Leu	Val	Pro	Asp 200	Thr	Thr	Tyr	Thr	Glu 205	Ala	His	Gly	Leu	Ala 210
Arg	Leu	Thr	Gly	His 215	Leu	Ser	Leu	Ala	Ser 220	Ala	Ala	His	Leu	Tyr 225
Leu	Gly	Arg	Pro	Gln 230	Asp	Phe	Ile	Gly	Gly 235	Glu	Pro	Thr	Pro	Gly 240
Arg	Tyr	Cys	His	Gly 245		Phe	Gly	Val	Leu 250		Ser	Arg	Met	Leu 255
Leu	Gln	Gln	Leu	Arg 260		His	Leu	Glu	Gly 265	Cys	Arg	Asn	Asp	11e 270

Val	Ser	Ala	Arg	Pro 275	Asp	Glu	Trp	Leu	Gly 280	Arg	Cys	Ile	Leu	Asp 285
Ala	Thr	Gly	Val	Gly 290	Cys	Thr	Gly	Asp	His 295	Glu	Gly	Val	His	Tyr 300
Ser	His	Leu	Glu	Leu 305	Ser	Pro	Gly	Glu	Pro 310	Val	Gln	Glu	Gly	Asp 315
Pro	His	Phe	Arg	Ser 320	Ala	Leu	Thr	Ala	His 325	Pro	Val	Arg	Asp	Pro 330
Val	His	Met	Tyr	Gln 335	Leu	His	Lys	Ala	Phe 340	Ala	Arg	Ala	Glu	Leu 345
Glu	Arg	Thr	Tyr	Gln 350	Glu	Ile	Gln	Glu	Leu 355	Gln	Trp	Glu	Ile	Gln 360
Asn	Thr	Ser	His	Leu 365	Ala	Val	Asp	Gly	Asp 370	Arg	Ala	Ala	Ala	Trp 375
Pro	Val	Gly	Ile	Pro 380	Ala	Pro	Ser	Arg	Pro 385	Ala	Ser	Arg	Phe	Glu 390
Val	Leu	Arg	Trp	Asp 395	Tyr	Phe	Thr	Glu	Gln 400	His	Ala	Phe	Ser	Cys 405
Ala	Asp	Gly	Ser	Pro 410	Arg	Cys	Pro	Leu	Arg 415	Gly	Ala	Asp	Arg	Ala 420
Asp	Val	Ala	Asp	Val 425	Leu	Gly	Thr	Ala	Leu 430	Glu	Glu	Leu	Asn	Arg 435
Arg	Tyr	His	Pro	Ala 440	Leu	Arg	Leu	Gln	Lys 445	Gln	Gln	Leu	Val	Asn 450
Gly	Tyr	Arg	Arg	Phe 455	Asp	Pro	Ala	Arg	Gly 460	Met	Glu	Tyr	Thr	Leu 465
Asp	Leu	Gln	Leu	Glu 470	Ala	Leu	Thr	Pro	Gln 475	Gly	Gly	Arg	Arg	Pro 480
Leu	Thr	Arg	Arg	Val 485	Gln	Leu	Leu	Arg	Pro 490	Leu	Ser	Arg	Val	Glu 495
Ile	Leu	Pro	Val	Pro 500		Val	Thr	Glu	Ala 505	Ser	Arg	Leu	Thr	Val 510
Leu	Leu	Pro	Leu	Ala 515		Ala	Glu	Arg	Asp 520	Leu	Ala	Pro	Gly	Phe 525
Leu	Glu	Ala	Phe	Ala 530		Ala	Ala	Leu	Glu 535		Gly	Asp	Ala	Ala 540
Ala	Ala	Leu	Thr	Leu 545		Leu	Leu	Tyr	Glu 550	Pro	Arg	Gln	Ala	Gln 555
Arg	Val	Ala	His	Ala 560		Val	Phe	Ala	Pro 565		Lys	Ala	His	Val 570
Ala	Glu	Leu	Glu	Arg 575		Phe	Pro	Gly	Ala 580		Val	Pro	Trp	Leu 585

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Ser Val Gln Thr Ala Ala Pro Ser Pro Leu Arg Leu Met Asp Leu
Leu Ser Lys Lys His Pro Leu Asp Thr Leu Phe Leu Leu Ala Gly
                                     610
Pro Asp Thr Val Leu Thr Pro Asp Phe Leu Asn Arg Cys Arg Met
                                     625
His Ala Ile Ser Gly Trp Gln Ala Phe Phe Pro Met His Phe Gln
                 635
Ala Phe His Pro Gly Val Ala Pro Pro Gln Gly Pro Gly Pro Pro
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Glu Leu Gly Arg Asp Thr Gly Arg Phe Asp Arg Gln Ala Ala Ser
Glu Ala Cys Phe Tyr Asn Ser Asp Tyr Val Ala Ala Arg Gly Arg
                                     685
Leu Ala Ala Ser Glu Gln Glu Glu Glu Leu Leu Glu Ser Leu
                 695
Asp Val Tyr Glu Leu Phe Leu His Phe Ser Ser Leu His Val Leu
                                     715
Arg Ala Val Glu Pro Ala Leu Leu Gln Arg Tyr Arg Ala Gln Thr
                                     730
Cys Ser Ala Arg Leu Ser Glu Asp Leu Tyr His Arg Cys Leu Gln
 Ser Val Leu Glu Gly Leu Gly Ser Arg Thr Gln Leu Ala Met Leu
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                                     760
                 755
Leu Phe Glu Gln Glu Gln Gly Asn Ser Thr
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<211> 1095
<212> DNA
<213> Homo sapiens
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 gctcccctag tggagaaaag gagtagctat tagccaattc ggcagggccc 150
 gctttttaga agcttgattt cctttgaaga tgaaagacta gcggaagctc 200
 tgcctctttc cccagtgggc gagggaactc ggggcgattg gctgggaact 250
 gtatccaccc aaatgtcacc gatttcttcc tatgcaggaa atgagcagac 300
 ccatcaataa gaaatttctc agcctggccg aaaatggttg gccccacgaa 350
 gccacgacaa ctggaggcaa agagggttgc tcaacgcccc gcctcattgg 400
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aaaaccaaat cagatetggg acctatatag cgtggcggag gcggggcgat 450 gattgtegcg ctegeacca ctgcagctgc gcacagtegc attettee 500 cegecectga gaecetgeag caccatetgt catggegget gggetgtttg 550 gtttgagege tegecgtett ttggeggcag eggegacgeg agggeteceg 600 geegecegeg teegetggga atetagette teeaggactg tggtegecee 650 gtccgetgtg gegggaaage ggececeaga accgaceaea cegtggeaag 700 aggacccaga accegaggac gaaaacttgt atgagaagaa eccagactee 750 catggttatg acaaggacee egttttggae gtetggaaca tgegacttgt 800 cttettett ggegteteea teateetggt eettggaaca tgegacttgt 850 cetatetgee tgactacagg atgaaagagt ggtecegeeg egaagetgag 900 aggettgga aatacegaag ggecaatgge etteceatea tggaatceaa 950 ctgettegac eccageage teeageage accgettee ecaccectg eetgecatte 1050 tgacetette teagageace taattaaagg ggetgaaagt etgaa 1095

<210> 334

<211> 153

<212> PRT

<213> Homo sapiens

<400> 334

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Ala Ala Ala Thr Arg Gly Leu Pro Ala Ala Arg Val Arg Trp Glu 20 25 30

Ser Ser Phe Ser Arg Thr Val Val Ala Pro Ser Ala Val Ala Gly
35 40 45

Lys Arg Pro Pro Glu Pro Thr Thr Pro Trp Gln Glu Asp Pro Glu
50 55 60

Pro Glu Asp Glu Asn Leu Tyr Glu Lys Asn Pro Asp Ser His Gly
65 70 75

Tyr Asp Lys Asp Pro Val Leu Asp Val Trp Asn Met Arg Leu Val 80 85 90

Phe Phe Phe Gly Val Ser Ile Ile Leu Val Leu Gly Ser Thr Phe 95 100 105

Val Ala Tyr Leu Pro Asp Tyr Arg Met Lys Glu Trp Ser Arg Arg 110 115 120

Glu Ala Glu Arg Leu Val Lys Tyr Arg Glu Ala Asn Gly Leu Pro 125 130 135

Ile Met Glu Ser Asn Cys Phe Asp Pro Ser Lys Ile Gln Leu Pro 140 145 150 Glu Asp Glu

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<211> 442
<212> DNA
<213> Homo sapiens
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 aggactgtgg tcgccccgtc cgctgtggcg ggaaagcggc ccccagaacc 150
 gaccacaccg tggcaagagg acccagaacc cgaggacgaa aacttgtatg 200
 agaagaaccc agactcccat ggttatgaca aggaccccgt tttggacgtc 250
 tggaacatgc gacttgtctt cttctttggc gtctccatca tcctggtcct 300
 tggcagcacc tttgtggcct atctgcctga ctacaggatg aaagagtggt 350
 cccgccgcga agctgagagg cttgtgaaat accgagaggc caatggcctt 400
 cccatcatgg aatccaactg cttcgacccc agcaagatcc ag 442
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<400> 336
 ctgagaccct gcagcaccat ctg 23
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 ggtgcttctt gagccccact tagc 24
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<400> 338
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<210> 339
<211> 2162
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<213> Homo sapiens

geggeggeta tgeegettge tetgetegte etgttgetee tggggeeegg 50 cggctggtgc cttgcagaac ccccacgcga cagcctgcgg gaggaacttg 100 tcatcacccc gctgccttcc ggggacgtag ccgccacatt ccagttccgc 150 acqcgctggg attcggagct tcagcgggaa ggagtgtccc attacaggct 200 ctttcccaaa gccctggggc agctgatctc caagtattct ctacgggagc 250 tgcacctgtc attcacacaa ggcttttgga ggacccgata ctgggggcca 300 cccttcctgc aggccccatc aggtgcagag ctgtgggtct ggttccaaga 350 cactgtcact gatgtggata aatcttggaa ggagctcagt aatgtcctct 400 cagggatett etgegeetet etcaacttea tegaeteeae caacacagte 450 actcccactg cctccttcaa acccctgggt ctggccaatg acactgacca 500 ctactttctg cgctatgctg tgctgccgcg ggaggtggtc tgcaccgaaa 550 acctcacccc ctggaagaag ctcttgccct gtagttccaa ggcaggcctc 600 tctgtgctgc tgaaggcaga tcgcttgttc cacaccagct accactccca 650 ggcagtgcat atccgccctg tttgcagaaa tgcacgctgt actagcatct 700 cctgggagct gaggcagacc ctgtcagttg tatttgatgc cttcatcacg 750 gggcagggaa agaaagactg gtccctcttc cggatgttct cccgaaccct 800 cacggagece tgececetgg etteagagag eegagtetat gtggaeatea 850 ccacctacaa ccaggacaac gagacattag aggtgcaccc acccccgacc 900 actacatatc aggacgtcat cctaggcact cggaagacct atgccatcta 950 tgacttgctt gacaccgcca tgatcaacaa ctctcgaaac ctcaacatcc 1000 ageteaagtg gaagagaece ceagagaatg aggeeecee agtgeeette 1050 ctgcatgccc agcggtacgt gagtggctat gggctgcaga agggggagct 1100 gagcacactg ctgtacaaca cccacccata ccgggccttc ccggtgctgc 1150 tgctggacac cgtaccctgg tatctgcggc tgtatgtgca caccctcacc 1200 atcacctcca agggcaagga gaacaaacca agttacatcc actaccagcc 1250 tgcccaggac cggctgcaac cccacctcct ggagatgctg attcagctgc 1300 cggccaactc agtcaccaag gtttccatcc agtttgagcg ggcgctgctg 1350 aagtggaccg agtacacgcc agatcctaac catggcttct atgtcagccc 1400 atctgtcctc agcgcccttg tgcccagcat ggtagcagcc aagccagtgg 1450 actgggaaga gagtcccctc ttcaacagcc tgttcccagt ctctgatggc 1500

tctaactact ttgtgeget ctacaeggag cegetgetgg tgaacetgee 1550 gacaeeggac tteageatge cetacaaegt gatetgeete aegtgeaettg 1600 tggtggeegt gtgetaegge teettetaea ateteeteae eegaaeette 1650 cacategagg ageeegaaggtg teeeceeaet etgattettg eeettteeag 1750 cagetgeage tgeegttet etetggggag gggageeeaa gggetgtte 1800 tgeeaettge teteeteaag gttggettt gaaceaaagt geeetggaee 1850 aggteaggge etacagetgt gttgteeagt acaggageea egageeaaat 1900 gttggeattt aatttgaatt aaeettagaaa tteatteet eaeetgtagt 1950 ggeeaeetet atattgaggt geeeaataaag eaaaagtggt eggtggetge 2000 tgtattggae ageeaaggtga tggggtgte tacaeagtgt atgteeetg 2150 ggeageaetg gagttaetg tttgtggaat aaaaaagget gttteegtg 2150 aaaaaaaaaaa aa 2162

<210> 340

<211> 574

<212> PRT

<213> Homo sapiens

<400> 340

Met Pro Leu Ala Leu Leu Val Leu Leu Leu Gly Pro Gly Gly
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Trp Cys Leu Ala Glu Pro Pro Arg Asp Ser Leu Arg Glu Glu Leu 20 25 30

Val Ile Thr Pro Leu Pro Ser Gly Asp Val Ala Ala Thr Phe Gln
35 40 45

Phe Arg Thr Arg Trp Asp Ser Glu Leu Gln Arg Glu Gly Val Ser 50 55 60

His Tyr Arg Leu Phe Pro Lys Ala Leu Gly Gln Leu Ile Ser Lys
65 70 75

Tyr Ser Leu Arg Glu Leu His Leu Ser Phe Thr Gln Gly Phe Trp 80 85 90

Arg Thr Arg Tyr Trp Gly Pro Pro Phe Leu Gln Ala Pro Ser Gly 95 100 105

Ala Glu Leu Trp Val Trp Phe Gln Asp Thr Val Thr Asp Val Asp 110 115 120

Lys Ser Trp Lys Glu Leu Ser Asn Val Leu Ser Gly Ile Phe Cys 125 130 135

Ala Ser Leu Asn Phe Ile Asp Ser Thr Asn Thr Val Thr Pro Thr 140 145 150

Ala Ser Phe Lys Pro Leu Gly Leu Ala Asn Asp Thr Asp His Tyr Phe Leu Arg Tyr Ala Val Leu Pro Arg Glu Val Val Cys Thr Glu Asn Leu Thr Pro Trp Lys Lys Leu Leu Pro Cys Ser Ser Lys Ala Gly Leu Ser Val Leu Leu Lys Ala Asp Arg Leu Phe His Thr Ser Tyr His Ser Gln Ala Val His Ile Arg Pro Val Cys Arg Asn Ala 215 Arg Cys Thr Ser Ile Ser Trp Glu Leu Arg Gln Thr Leu Ser Val Val Phe Asp Ala Phe Ile Thr Gly Gln Gly Lys Lys Asp Trp Ser 245 Leu Phe Arg Met Phe Ser Arg Thr Leu Thr Glu Pro Cys Pro Leu 265 Ala Ser Glu Ser Arg Val Tyr Val Asp Ile Thr Thr Tyr Asn Gln Asp Asn Glu Thr Leu Glu Val His Pro Pro Pro Thr Thr Tyr Gln Asp Val Ile Leu Gly Thr Arg Lys Thr Tyr Ala Ile Tyr Asp 305 Leu Leu Asp Thr Ala Met Ile Asn Asn Ser Arg Asn Leu Asn Ile 325 Gln Leu Lys Trp Lys Arg Pro Pro Glu Asn Glu Ala Pro Pro Val Pro Phe Leu His Ala Gln Arg Tyr Val Ser Gly Tyr Gly Leu Gln Lys Gly Glu Leu Ser Thr Leu Leu Tyr Asn Thr His Pro Tyr Arg Ala Phe Pro Val Leu Leu Asp Thr Val Pro Trp Tyr Leu Arg 385 380 Leu Tyr Val His Thr Leu Thr Ile Thr Ser Lys Gly Lys Glu Asn 395 Lys Pro Ser Tyr Ile His Tyr Gln Pro Ala Gln Asp Arg Leu Gln 415 Pro His Leu Leu Glu Met Leu Ile Gln Leu Pro Ala Asn Ser Val 430 425 Thr Lys Val Ser Ile Gln Phe Glu Arg Ala Leu Leu Lys Trp Thr 445 Glu Tyr Thr Pro Asp Pro Asn His Gly Phe Tyr Val Ser Pro Ser

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Val Leu Ser Ala Leu Val Pro Ser Met Val Ala Ala Lys Pro Val
 Asp Trp Glu Glu Ser Pro Leu Phe Asn Ser Leu Phe Pro Val Ser
                                      490
                 485
                                                          495
 Asp Gly Ser Asn Tyr Phe Val Arg Leu Tyr Thr Glu Pro Leu Leu
 Val Asn Leu Pro Thr Pro Asp Phe Ser Met Pro Tyr Asn Val Ile
Cys Leu Thr Cys Thr Val Val Ala Val Cys Tyr Gly Ser Phe Tyr
                                                          540
                 530
                                      535
Asn Leu Leu Thr Arg Thr Phe His Ile Glu Glu Pro Arg Thr Gly
Gly Leu Ala Lys Arg Leu Ala Asn Leu Ile Arg Arg Ala Arg Gly
Val Pro Pro Leu
<210> 341
<211> 24
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<223> Synthetic oligonucleotide probe
<400> 341
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<210> 342
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<222> 1-24
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<211> 762
<212> DNA
<213> Homo sapiens
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<210> 345

<211> 111

<212> PRT

<213> Homo sapiens

<400> 345

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Val Thr Leu Val Ala Val Glu Gly Val Lys Glu Gly Ile Glu Lys 20 25 30

Ala Gly Val Cys Pro Ala Asp Asn Val Arg Cys Phe Lys Ser Asp 45

Pro Pro Gln Cys His Thr Asp Gln Asp Cys Leu Gly Glu Arg Lys
50 55 60

Cys Cys Tyr Leu His Cys Gly Phe Lys Cys Val Ile Pro Val Lys 65 70 75

Glu Leu Glu Glu Gly Gly Asn Lys Asp Glu Asp Val Ser Arg Pro 80 85 90

Tyr Pro Glu Pro Gly Trp Glu Ala Lys Cys Pro Gly Ser Ser Ser 95 100 105

Thr Arg Cys Pro Gln Lys

<210> 346 <211> 2528 <212> DNA <213> Homo sapiens

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<210> 347
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Lys Pro Lys Ser Gln Ala Pro Thr Arg Ala Arg Arg Thr Thr Ile

<211> 600

<212> PRT

<213> Homo sapiens

<400> 347

Met Arg Ser Cys Leu Trp Arg Cys Arg His Leu Ser Gln Gly Val 1 5 10 15

Gln Trp Ser Leu Leu Leu Ala Val Leu Val Phe Phe Leu Phe Ala 20 25 30

Leu Pro Ser Phe Ile Lys Glu Pro Gln Thr Lys Pro Ser Arg His 35 40 45

				65					70					75
				65			_	_		.	71	шь	Cln	
Tyr	Ala	Glu	Pro	Ala 80	Pro	Glu	Asn	Asn	A1a 85	Leu	Asn	Tnr	GIII	90
Gln	Pro	Lys	Ala	His 95	Thr	Thr	Gly	Asp	Arg 100	Gly	Lys	Glu	Ala	Asn 105
Gln	Ala	Pro	Pro	Glu 110	Glu	Gln	Asp	Lys	Val 115	Pro	His	Thr	Ala	Gln 120
Arg	Ala	Ala	Trp	Lys 125	Ser	Pro	Glu	Lys	Glu 130	Lys	Thr	Met	Val	Asn 135
Thr	Leu	Ser	Pro	Arg 140	Gly	Gln	Asp	Ala	Gly 145	Met	Ala	Ser	Gly	Arg 150
Thr	Glu	Ala	Gln	Ser 155	Trp	Lys	Ser	Gln	Asp 160	Thr	Lys	Thr	Thr	Gln 165
Gly	Asn	Gly	Gly	Gln 170	Thr	Arg	Lys	Leu	Thr 175	Ala	Ser	Arg	Thr	Val 180
Ser	Glu	Lys	His	Gln 185	Gly	Lys	Ala	Ala	Thr 190	Thr	Ala	Lys	Thr	Leu 195
Ile	Pro	Lys	Ser	Gln 200	His	Arg	Met	Leu	Ala 205	Pro	Thr	Gly	Ala	Val 210
Ser	Thr	Arg	Thr	Arg 215	Gln	Lys	Gly	Val	Thr 220	Thr	Ala	Val	Ile	Pro 225
Pro	Lys	Glu	Lys	Lys 230	Pro	Gln	Ala	Thr	Pro 235	Pro	Pro	Ala	Pro	Phe 240
Gln	Ser	Pro	Thr	Thr 245	Gln	Arg	Asn	Gln	Arg 250	Leu	Lys	Ala	Ala	Asn 255
Phe	Lys	Ser	Glu	Pro 260	Arg	Trp	Asp	Phe	Glu 265	Glu	Lys	Tyr	Ser	Phe 270
Glu	Ile	Gly	Gly	Leu 275	Gln	Thr	Thr	Cys	Pro 280	Asp	Ser	Val	Lys	Ile 285
Lys	Ala	Ser	: Lys	Ser 290		Trp	Leu	Gln	Lys 295	Leu	Phe	Leu	Pro	Asn 300
Leu	Thr	: Leu	ı Phe	Leu 305		Ser	Arg	His	Phe 310	Asn	Gln	Ser	Glu	Trp 315
Asp	Arç	g Leu	ı Glu	His 320		Ala	Pro	Pro	Phe 325	Gly	7 Phe	Met	: Glu	Leu 330
Asn	туг	s Ser	r Leu	ı Val 335		. Lys	Val	. Val	Thr 340	Arç	J Ph∈	e Pro) Pro	Val 345
Pro	Glr	n Glr	ı Glr	1 Leu 350		Leu	Ala	a Ser	Leu 355	Pro	Ala	a Gly	y Ser	Leu 360

Arg Cys Ile Thr Cys Ala Val Val Gly Asn Gly Gly Ile Leu Asn

Asn Ser His Met Gly Gln Glu Ile Asp Ser His Asp Tyr Val Phe

355

				380					385					390
Arg	Leu	Ser	Gly	Ala 395	Leu	Ile	Lys	Gly	Tyr 400	Glu	Gln	Asp	Val	Gly 405
Thr	Arg	Thr	Ser	Phe 410	Tyr	Gly	Phe	Thr	Ala 415	Phe	Ser	Leu	Thr	Gln 420
Ser	Leu	Leu	Ile	Leu 425	Gly	Asn	Arg	Gly	Phe 430	Lys	Asn	Val	Pro	Leu 435
Gly	Lys	Asp	Val	Arg 440	Tyr	Leu	His	Phe	Leu 445	Glu	Gly	Thr	Arg	Asp 450
Tyr	Glu	Trp	Leu	Glu 455	Ala	Leu	Leu	Met	Asn 460	Gln	Thr	Val	Met	Ser 465
Lys	Asn	Leu	Phe	Trp 470	Phe	Arg	His	Arg	Pro 475	Gln	Glu	Ala	Phe	Arg 480
Glu	Ala	Leu	His	Met 485	Asp	Arg	Tyr	Leu	Leu 490	Leu	His	Pro	Asp	Phe 495
Leu	Arg	Tyr	Met	Lys 500	Asn	Arg	Phe	Leu	Arg 505	Ser	Lys	Thr	Leu	Asp 510
Gly	Ala	His	Trp	Arg 515	Ile	Tyr	Arg	Pro	Thr 520	Thr	Gly	Ala	Leu	Leu 525
Leu	Leu	Thr	Ala	Leu 530	Gln	Leu	Cys	Asp	Gln 535	Val	Ser	Ala	Tyr	Gly 540
Phe	Ile	Thr	Glu	Gly 545	His	Glu	Arg	Phe	Ser 550	Asp	His	Tyr	Tyr	Asp 555
Thr	Ser	Trp	Lys	Arg 560	Leu	Ile	Phe	Tyr	Ile 565	Asn	His	Asp	Phe	Lys 570
Leu	Glu	Arg	Glu	Val 575	Trp	Lys	Arg	Leu	His 580	Asp	Glu	Gly	Ile	Ile 585
Arg	Leu	Tyr	Gln	Arg 590		Gly	Pro	Gly	Thr 595	Ala	Lys	Ala	Lys	Asn 600
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<211	> 49	6												

<212> DNA

<213> Homo sapiens

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<210> 349

<211> 91

<212> PRT

<213> Homo sapiens

<400> 349

Met Arg Gly Pro Gly His Pro Leu Leu Leu Gly Leu Leu Val

Leu Gly Pro Ser Pro Glu Gln Arg Val Glu Ile Val Pro Arg Asp

Leu Arg Met Lys Asp Lys Phe Leu Lys His Leu Thr Gly Pro Leu

Tyr Phe Ser Pro Lys Cys Ser Lys His Phe His Arg Leu Tyr His

Asn Thr Arg Asp Cys Thr Ile Pro Ala Tyr Tyr Lys Arg Cys Ala

Arg Leu Leu Thr Arg Leu Ala Val Ser Pro Val Cys Met Glu Asp 90

Lys

<210> 350

<211> 1141

<212> DNA

<213> Homo sapiens

<400> 350

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actetacea getgggeece cagtetacaa ceetgeaget cetecteect 650 atatgeeace acageectet taceeggag cetgaggaac cageeatgte 700 tetgetgeec etteagtgat gecaacettg ggagatgeec teateetgta 750 cetgeatetg gteetggggg tggeaggagt cetecageea ecaggeecea 800 gaccaageea ageeetggge ectactgggg acagageece agggaagtgg 850 aacaggaget gaactagaac tatgaggggt tggggggggg gettggaatt 900 atgggetatt teaaatagt ecetetgete ecaagateec ageeaggaag 1000 getggggeec tactgettg eceetetggg etggggtggg gggagggagg 1050 aggtteegte ageagetgge agtageecte etetetgget geceeaetgg 1100 ceacatetet ggeetgetag attaaagetg taaagacaaa a 1141

<210> 351

<211> 197

<212> PRT

<213> Homo sapiens

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Pro Ala Ala Pro Pro Pro Tyr Met Pro Pro Gln Pro Ser Tyr Pro 185 190 195

Gly Ala

<210> 352 <211> 3226 <212> DNA

<213> Homo sapiens

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gacgcaatgg aggtagatgc tttaaattcc tcacaccctg tgtctacacc 1350 tgtggaaaat cctgctcaga tccgggagat gtttgatgat gtttcttatg 1400 ataagggagc ttgtattctg aatatgctaa gggagtatct tagcgctgac 1450 gcatttaaaa gtggtattgt acagtatctc cagaagcata gctataaaaa 1500 tacaaaaaac gaggacctgt gggatagtat ggcaagtatt tgccctacag 1550 atggtgtaaa agggatggat ggcttttgct ctagaagtca acattcatct 1600 tcatcctcac attggcatca ggaaggggtg gatgtgaaaa ccatgatgaa 1650 cacttggaca ctgcagaggg gttttcccct aataaccatc acagtgaggg 1700 ggaggaatgt acacatgaag caagagcact acatgaaggg ctctgacggc 1750 gccccggaca ctgggtacct gtggcatgtt ccattgacat tcatcaccag 1800 caaatccaac atggtccatc gatttttgct aaaaacaaaa acagatgtgc 1850 tcatcctccc agaagaggtg gaatggatca aatttaatgt gggcatgaat 1900 ggctattaca ttgtgcatta cgaggatgat ggatgggact ctttgactgg 1950 ccttttaaaa ggaacacaca cagcagtcag cagtaatgat cgggcaagtc 2000 tcattaacaa tgcatttcag ctcgtcagca ttgggaagct gtccattgaa 2050 aaggccttgg atttatccct gtacttgaaa catgaaactg aaattatgcc 2100 cgtgtttcaa ggtttgaatg agctgattcc tatgtataag ttaatggaga 2150 aaagagatat gaatgaagtg gaaactcaat tcaaggcctt cctcatcagg 2200 ctgctaaggg acctcattga taagcagaca tggacagacg agggctcagt 2250 ctcagagcaa atgctgcgga gtgaactact actcctcgcc tgtgtgcaca 2300 actatcagcc gtgcgtacag agggcagaag gctatttcag aaagtggaag 2350 gaatccaatg gaaacttgag cctgcctgtc gacgtgacct tggcagtgtt 2400 tgctgtgggg gcccagagca cagaaggctg ggattttctt tatagtaaat 2450 atcagttttc tttgtccagt actgagaaaa gccaaattga atttgccctc 2500 tgcagaaccc aaaataagga aaagcttcaa tggctactag atgaaagctt 2550 taagggagat aaaataaaaa ctcaggagtt tccacaaatt cttacactca 2600 ttggcaggaa cccagtagga tacccactgg cctggcaatt tctgaggaaa 2650. aactggaaca aacttgtaca aaagtttgaa cttggctcat cttccatagc 2700 ccacatggta atgggtacaa caaatcaatt ctccacaaga acacggcttg 2750 aagaggtaaa aggattette agetetttga aagaaaatgg tteteagete 2800 cgttgtgtcc aacagacaat tgaaaccatt gaagaaaaca tcggttggat 2850 ggataagaat tttgataaaa tcagagtgtg gctgcaaagt gaaaagcttg 2900

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<210> 353

<211> 941

<212> PRT

<213> Homo sapiens

<400> 353 Met Val Phe Leu Pro Leu Lys Trp Ser Leu Ala Thr Met Ser Phe Leu Leu Ser Ser Leu Leu Ala Leu Leu Thr Val Ser Thr Pro Ser Trp Cys Gln Ser Thr Glu Ala Ser Pro Lys Arg Ser Asp Gly Thr Pro Phe Pro Trp Asn Lys Ile Arg Leu Pro Glu Tyr Val Ile Pro Val His Tyr Asp Leu Leu Ile His Ala Asn Leu Thr Thr Leu Thr Phe Trp Gly Thr Thr Lys Val Glu Ile Thr Ala Ser Gln Pro Thr Ser Thr Ile Ile Leu His Ser His His Leu Gln Ile Ser Arg Ala 100 Thr Leu Arg Lys Gly Ala Gly Glu Arg Leu Ser Glu Glu Pro Leu Gln Val Leu Glu His Pro Pro Gln Glu Gln Ile Ala Leu Leu Ala 125 Pro Glu Pro Leu Leu Val Gly Leu Pro Tyr Thr Val Val Ile His 140 Tyr Ala Gly Asn Leu Ser Glu Thr Phe His Gly Phe Tyr Lys Ser 165 Thr Tyr Arg Thr Lys Glu Gly Glu Leu Arg Ile Leu Ala Ser Thr Gln Phe Glu Pro Thr Ala Ala Arg Met Ala Phe Pro Cys Phe Asp 190 185

Glu Pro Ala Phe Lys Ala Ser Phe Ser Ile Lys Ile Arg Arg Glu

Pro Arg His Leu Ala Ile Ser Asn Met Pro Leu Val Lys Ser Val

205

				215					220					225
Thr	Val	Ala	Glu	Gly 230	Leu	Ile	Glu	Asp	His 235	Phe	Asp	Val	Thr	Val 240
Lys	Met	Ser	Thr	Tyr 245	Leu	Val	Ala	Phe	Ile 250	Ile	Ser	Asp	Phe	Glu 255
Ser	Val	Ser	Lys	Ile 260	Thr	Lys	Ser	Gly	Val 265	Lys	Val	Ser	Val	Tyr 270
Ala	Val	Pro	Asp	Lys 275	Ile	Asn	Gln	Ala	Asp 280	Tyr	Ala	Leu	Asp	Ala 285
Ala	Val	Thr	Leu	Leu 290	Glu	Phe	Tyr	Glu	Asp 295	Tyr	Phe	Ser	Ile	Pro 300
Tyr	Pro	Leu	Pro	Lys 305	Gln	Asp	Leu	Ala	Ala 310	Ile	Pro	Asp	Phe	Gln 315
Ser	Gly	Ala	Met	Glu 320	Asn	Trp	Gly	Leu	Thr 325	Thr	Tyr	Arg	Glu	Ser 330
Ala	Leu	Leu	Phe	Asp 335	Ala	Glu	Lys	Ser	Ser 340	Ala	Ser	Ser	Lys	Leu 345
Gly	Ile	Thr	Val	Thr 350	Val	Ala	His	Glu	Leu 355	Ala	His	Gln	Trp	Phe 360
Gly	Asn	Leu	Val	Thr 365	Met	Glu	Trp	Trp	Asn 370	Asp	Leu	Trp	Leu	Asn 375
Glu	Gly	Phe	Ala	Lys 380	Phe	Met	Glu	Phe	Val 385	Ser	Val	Ser	Val	Thr 390
His	Pro	Glu	Leu	Lys 395	Val	Gly	Asp	Tyr	Phe 400	Phe	Gly	Lys	Cys	Phe 405
Asp	Ala	Met	Glu	Val 410	Asp	Ala	Leu	Asn	Ser 415	Ser	His	Pro	Val	Ser 420
Thr	Pro	Val	Glu	Asn 425	Pro	Ala	Gln	Ile	Arg 430	Glu	Met	Phe	Asp	Asp 435
Val	Ser	Tyr	Asp	Lys 440	Gly	Ala	Cys	Ile	Leu 445	Asn	Met	Leu	Arg	Glu 450
Tyr	Leu	Ser	Ala	Asp 455		Phe	Lys	Ser	Gly 460	Ile	Val	Gln	Tyr	Leu 465
Gln	Lys	His	Ser	Tyr 470		Asn	Thr	Lys	Asn 475	Glu	Asp	Leu	Trp	Asp 480
Ser	Met	Ala	Ser	Ile 485		Pro	Thr	Asp	Gly 490		Lys	Gly	Met	Asp 495
Gly	Phe	Cys	Ser	Arg 500		Gln	His	Ser	Ser 505	Ser	Ser	Ser	His	Trp 510
His	Gln	Glu	Gly	Val 515		Val	Lys	Thr	Met 520	Met	Asn	Thr	Trp	Thr 525
Ten	Gln	Ara	Glv	Phe	Pro	Leu	Ile	Thr	Ile	Thr	Val	Arq	Gly	Arg

				530					535					540
Asn	Val	His	Met	Lys 545	Gln	Glu	His	Tyr	Met 550	Lys	Gly	Ser	Asp	Gly 555
Ala	Pro	Asp	Thr	Gly 560	Tyr	Leu	Trp	His	Val 565	Pro	Leu	Thr	Phe	Ile 570
Thr	Ser	Lys	Ser	Asn 575	Met	Val	His	Arg	Phe 580	Leu	Leu	Lys	Thr	Lys 585
Thr	Asp	Val	Leu	Ile 590	Leu	Pro	Glu	Glu	Val 595	Glu	Trp	Ile	Lys	Phe 600
Asn	Val	Gly	Met	Asn 605	Gly	Tyr	Tyr	Ile	Val 610	His	Tyr	Glu	Asp	Asp 615
Gly	Trp	Asp	Ser	Leu 620	Thr	Gly	Leu	Leu	Lys 625	Gly	Thr	His	Thr	Ala 630
Val	Ser	Ser	Asn	Asp 635	Arg	Ala	Ser	Leu	Ile 640	Asn	Asn	Ala	Phe	Gln 645
Leu	Val	Ser	Ile	Gly 650	Lys	Leu	Ser	Ile	Glu 655	Lys	Ala	Leu	Asp	Leu 660
Ser	Leu	Tyr	Leu	Lys 665	His	Glu	Thr	Glu	Ile 670	Met	Pro	Val	Phe	Gln 675
Gly	Leu	Asn	Glu	Leu 680	Ile	Pro	Met	Tyr	Lys 685	Leu	Met	Glu	Lys	Arg 690
Asp	Met	Asn	Glu	Val 695	Glu	Thr	Gln	Phe	Lys 700	Ala	Phe	Leu	Ile	Arg 705
Leu	Leu	Arg	Asp	Leu 710	Ile	Asp	Lys	Gln	Thr 715	Trp	Thr	Asp	Glu	Gly 720
Ser	Val	Ser	Glu	Gln 725	Met	Leu	Arg	Ser	Glu 730	Leu	Leu	Leu	Leu	Ala 735
Cys	Val	His	Asn	Tyr 740	Gln	Pro	Cys	Val	Gln 745	Arg	Ala	Glu	Gly	Tyr 750
Phe	Arg	Lys	Trp	Lys 755	Glu	Ser	Asn	Gly	Asn 760	Leu	Ser	Leu	Pro	Val 765
Asp	Val	Thr	Leu	Ala 770		Phe	Ala	Val	Gly 775	Ala	Gln	Ser	Thr	Glu 780
Gly	Trp	Asp	Phe	Leu 785		Ser	Lys	Tyr	Gln 790	Phe	Ser	Leu	Ser	Ser 795
Thr	Glu	Lys	Ser	Gln 800		Glu	Phe	Ala	Leu 805	Cys	Arg	Thr	Gln	Asn 810
Lys	Glu	Lys	Leu	Gln 815		Leu	Leu	Asp	Glu 820	Ser	Phe	Lys	Gly	Asp 825
Lys	Ile	Lys	Thr	Gln 830		Phe	Pro	Gln	Ile 835	Leu	Thr	Leu	Ile	Gly 840
Ara	Asn	Pro	Val	Glv	Tvr	Pro	Leu	Ala	Trp	Gln	Phe	Leu	Arg	Lys

 Asn
 Trp
 Asn
 Lys
 Leu 845
 850
 Ser
 855

 Asn
 Trp
 Asn
 Lys
 Leu 860
 Val Gln Lys
 Phe Glu Leu Gly Leu Gly
 Ser Ser 870

 Ile
 Ala His
 Met Val Met 875
 Met Gly Thr Thr Asn 880
 Gln Phe Ser Thr Arg 885

 Thr
 Arg
 Leu Glu Glu Val Lys
 Gly Phe Phe 895
 Ser Ser Leu Lys Glu 900

 Asn Gly Ser Gln Leu 905
 Arg Cys
 Val Gln Gln Thr Ile Glu Thr Ile 915

 Glu Glu Asn Ile Gly Trp Met Asp Lys Asn 925
 Phe Asp Lys Ile Arg 930

 Val Trp Leu Gln Ser Glu Lys Leu Glu Arg 940
 Met 940

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<213> Homo sapiens

<400> 354 cagccacaga cgggtcatga gcgcggtatt actgctggcc ctcctggggt 50 tcatcctccc actgccagga gtgcaggcgc tgctctgcca gtttgggaca 100 gttcagcatg tgtggaaggt gtccgaccta ccccggcaat ggacccctaa 150 gaacaccagc tgcgacagcg gcttggggtg ccaggacacg ttgatgctca 200 ttgagagcgg accccaagtg agcctggtgc tctccaaggg ctgcacggag 250 gccaaggacc aggagccccg cgtcactgag caccggatgg gccccggcct 300 ctccctgatc tcctacacct tcgtgtgccg ccaggaggac ttctgcaaca 350 acctcgttaa ctccctcccg ctttgggccc cacagccccc agcagaccca 400 ggatccttga ggtgcccagt ctgcttgtct atggaaggct gtctggaggg 450 gacaacagaa gagatctgcc ccaaggggac cacacactgt tatgatggcc 500 tecteagget caggggagga ggeatettet ceaatetgag agtecaggga 550 tgcatgcccc agccaggttg caacctgctc aatgggacac aggaaattgg 600 gcccgtgggt atgactgaga actgcaatag gaaagatttt ctgacctgtc 650 atcgggggac caccattatg acacacggaa acttggctca agaacccact 700 gattggacca catcgaatac cgagatgtgc gaggtggggc aggtgtgtca 750 ggagacgctg ctgctcatag atgtaggact cacatcaacc ctggtgggga 800 caaaaggctg cagcactgtt ggggctcaaa attcccagaa gaccaccatc 850 cactcagece etectggggt gettgtggee tectataeec aettetgete 900 ctcggacctg tgcaatagtg ccagcagcag cagcgttctg ctgaactccc 950 tecetectea agetgeecet gteceaggag aceggeagtg tectacetgt 1000 gtgcagecec ttggaacetg tteaagtgge tecececgaa tgacetgeec 1050 caggggegee acteattgtt atgatgggta catteatete teaggaggtg 1100 ggetgteeae caaaatgage atteaggget gegtggeeca acetteeage 1150 ttettgttga aceaecaeg acaaateggg atetteetg egegtgagaa 1200 gegtgatgtg cageeteetg eeteteagea tgagggaggt ggggetgagg 1250 geetggage teteaettgg ggggtggge tggeaetgge eeeagegetg 1300 tggtggggag tggttgeec tteetgetaa etetataee eeeaeggate 1350 tteaeegetg etgaecaece acaeteaaee teeetetgae eteataaeet 1400 aatggeettg gaeaecagaa tetteeeat tetgteeatg aateatete 1450 eeeagagga teeggaettg eeetatgga gagggaege tggaggag 1500 geetggagea teeggaettg eeetatgga gaggggaege tggaggagt 1550 geetggatgta teeggaettg eeetatgga gaggggaege tggaggagtg 1550 getgeatgta tetgataata eagaeeettg eeettea 1587

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<212> PRT

<213> Homo sapiens

 A400> 355
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 Leu Leu Leu Cys Gln Phe Gly Thr Val Gln 30

 Leu Pro Gly Val Gln 20
 Ala Leu Leu Cys Gln Phe Gly Thr Val Gln 30

 His Val Trp Lys Val 35
 Ser Asp Leu Pro Arg Gln Trp Thr Pro Lys 45

 Asn Thr Ser Cys Asp 50
 Ser Gly Leu Gly Cys Gln Asp Thr Leu Met 60

 Leu Ile Glu Ser Gly Pro Gln Val Ser Leu Val Leu Ser Lys Gly 75

 Cys Thr Glu Ala Lys Asp Gln Glu Pro Arg 85
 Val Thr Glu His Arg 90

 Met Gly Pro Gly Leu Ser Leu Ile Ser Tyr Thr Phe Val Cys Arg 105

 Gln Glu Asp Phe Cys Asn Asn Leu Val Asn Ser Leu Pro Leu Trp 120

 Ala Pro Gln Pro Pro Ala Asp Pro Gly Ser Leu Arg Cys Pro Val 135

 Cys Leu Ser Met Glu Gly Cys Leu Glu Gly Thr Thr His Cys Tyr Asp Gly Leu Leu Arg Leu

				155					160					165
Arg	Gly	Gly	Gly	Ile 170	Phe	Ser	Asn	Leu	Arg 175	Val	Gln	Gly	Cys	Met 180
Pro	Gln	Pro	Gly	Cys 185	Asn	Leu	Leu	Asn	Gly 190	Thr	Gln	Glu	Ile	Gly 195
Pro	Val	Gly	Met	Thr 200	Glu	Asn	Cys	Asn	Arg 205	Lys	Asp	Phe	Leu	Thr 210
Cys	His	Arg	Gly	Thr 215	Thr	Ile	Met	Thr	His 220	Gly	Asn	Leu	Ala	Gln 225
Glu	Pro	Thr	Asp	Trp 230	Thr	Thr	Ser	Asn	Thr 235	Glu	Met	Cys	Glu	Val 240
Gly	Gln	Val	Суз	Gln 245	Glu	Thr	Leu	Leu	Leu 250	Ile	Asp	Val	Gly	Leu 255
Thr	Ser	Thr	Leu	Val 260	Gly	Thr	Lys	Gly	Cys 265	Ser	Thr	Val	Gly	Ala 270
Gln	Asn	Ser	Gln	Lys 275	Thr	Thr	Ile	His	Ser 280	Ala	Pro	Pro	Gly	Val 285
Leu	Val	Ala	Ser	Tyr 290	Thr	His	Phe	Cys	Ser 295	Ser	Asp	Leu	Cys	Asn 300
Ser	Ala	Ser	Ser	Ser 305	Ser	Val	Leu	Leu	Asn 310	Ser	Leu	Pro	Pro	Gln 315
Ala	Ala	Pro	Val	Pro 320	Gly	Asp	Arg	Gln	Cys 325	Pro	Thr	Cys	Val	Gln 330
Pro	Leu	Gly	Thr	Cys 335	Ser	Ser	Gly	Ser	Pro 340	Arg	Met	Thr	Cys	Pro 345
Arg	Gly	Ala	Thr	His 350	Cys	Tyr	Asp	Gly	Tyr 355	Ile	His	Leu	Ser	Gly 360
Gly	Gly	Leu	Ser	Thr 365	Lys	Met	Ser	Ile	Gln 370	Gly	Cys	Val	Ala	Gln 375
Pro	Ser	Ser	Phe	Leu 380	Leu	Asn	His	Thr	Arg 385	Gln	Ile	Gly	Ile	Phe 390
Ser	Ala	Arg	Glu	Lys 395	Arg	Asp	Val	Gln	Pro 400	Pro	Ala	Ser	Gln	His 405
Glu	Gly	Gly	Gly	Ala 410	Glu	Gly	Leu	Glu	Ser 415	Leu	Thr	Trp	Gly	Val 420
Gly	Leu	Ala	Leu	Ala 425	Pro	Ala	Leu	Trp	Trp 430	Gly	Val	Val	Cys	Pro 435
Ser	Cys	;												

<210> 356 <211> 1238 <212> DNA <213> Homo sapiens

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<400> 356
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cctgcctgcg ctcaggatga gggggaatct ggccctggtg ggcgttctaa 100
 tcagcctggc cttcctgtca ctgctgccat ctggacatcc tcagccggct 150
 ggcgatgacg cctgctctgt gcagatcctc gtccctggcc tcaaagggga 200
 tgcgggagag aagggagaca aaggcgcccc cggacggcct ggaagagtcg 250
 gccccacggg agaaaaagga gacatggggg acaaaggaca gaaaggcagt 300
 gtgggtcgtc atggaaaaat tggtcccatt ggctctaaag gtgagaaagg 350
 agattccggt gacataggac cccctggtcc taatggagaa ccaggcctcc 400
 catgtgagtg cagccagctg cgcaaggcca tcggggagat ggacaaccag 450
 gtctctcagc tgaccagcga gctcaagttc atcaagaatg ctgtcgccgg 500
 tgtgcgcgag acggagagca agatctacct gctggtgaag gaggagaagc 550
 gctacgcgga cgcccagctg tcctgccagg gccgcggggg cacgctgagc 600
 atgcccaagg acgaggctgc caatggcctg atggccgcat acctggcgca 650
 agccggcctg gcccgtgtct tcatcggcat caacgacctg gagaaggagg 700
 gcgccttcgt gtactctgac cactccccca tgcggacctt caacaagtgg 750
 cgcagcggtg agcccaacaa tgcctacgac gaggaggact gcgtggagat 800
 ggtggcctcg ggcggctgga acgacgtggc ctgccacacc accatgtact 850
 tcatgtgtga gtttgacaag gagaacatgt gagcctcagg ctggggctgc 900
 ccattggggg ccccacatgt ccctgcaggg ttggcaggga cagagcccag 950
 accatggtgc cagccaggga gctgtccctc tgtgaagggt ggaggctcac 1000
 tgagtagagg gctgttgtct aaactgagaa aatggcctat gcttaagagg 1050
 aaaatgaaag tgttcctggg gtgctgtctc tgaagaagca gagtttcatt 1100
 acctgtattg tagccccaat gtcattatgt aattattacc cagaattgct 1150
 cttccataaa gcttgtgcct ttgtccaagc tatacaataa aatctttaag 1200
 tagtgcagta gttaagtcca aaaaaaaaa aaaaaaaa 1238
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<210> 357

<211> 271

<212> PRT

<213> Homo sapiens

<400> 357

Met Arg Gly Asn Leu Ala Leu Val Gly Val Leu Ile Ser Leu Ala 1 5 10 15

Phe Leu Ser Leu Leu Pro Ser Gly His Pro Gln Pro Ala Gly Asp 20 25 30

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Asp Ala Cys Ser Val Gln Ile Leu Val Pro Gly Leu Lys Gly Asp.
Ala Gly Glu Lys Gly Asp Lys Gly Ala Pro Gly Arg Pro Gly Arg
Val Gly Pro Thr Gly Glu Lys Gly Asp Met Gly Asp Lys Gly Gln
Lys Gly Ser Val Gly Arg His Gly Lys Ile Gly Pro Ile Gly Ser
Lys Gly Glu Lys Gly Asp Ser Gly Asp Ile Gly Pro Pro Gly Pro
Asn Gly Glu Pro Gly Leu Pro Cys Glu Cys Ser Gln Leu Arg Lys
Ala Ile Gly Glu Met Asp Asn Gln Val Ser Gln Leu Thr Ser Glu
                                                         135
                                     130
Leu Lys Phe Ile Lys Asn Ala Val Ala Gly Val Arg Glu Thr Glu
Ser Lys Ile Tyr Leu Leu Val Lys Glu Glu Lys Arg Tyr Ala Asp
Ala Gln Leu Ser Cys Gln Gly Arg Gly Gly Thr Leu Ser Met Pro
                                                         180
                                     175
Lys Asp Glu Ala Ala Asn Gly Leu Met Ala Ala Tyr Leu Ala Gln
                                     190
                 185
Ala Gly Leu Ala Arg Val Phe Ile Gly Ile Asn Asp Leu Glu Lys
                                                         210
                                     205
Glu Gly Ala Phe Val Tyr Ser Asp His Ser Pro Met Arg Thr Phe
                                                          225
Asn Lys Trp Arg Ser Gly Glu Pro Asn Asn Ala Tyr Asp Glu Glu
                                     235
                 230
Asp Cys Val Glu Met Val Ala Ser Gly Gly Trp Asn Asp Val Ala
                                                          255
Cys His Thr Thr Met Tyr Phe Met Cys Glu Phe Asp Lys Glu Asn
                                     265
                 260
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Met

<210> 358

<211> 972

<212> DNA

<213> Homo sapiens

<400> 358
agtgactgca gccttcctag atcccctcca ctcggtttct ctctttgcag 50
gagcaccggc agcaccagtg tgtgagggga gcaggcagcg gtcctagcca 100
gttccttgat cctgccagac cacccagccc ccggcacaga gctgctccac 150

aggcaccatg aggatcatgc tgctattcac agccatcctg gccttcagcc 200 tagctcagag ctttggggct gtctgtaagg agccacagga ggaggtggtt 250 cctggcgggg gccgcagcaa gagggatcca gatctctacc agctgctcca 300 gagactette aaaageeact catetetgga gggattgete aaageeetga 350 gccaggctag cacagatect aaggaateaa eateteega gaaacgtgae 400 atgcatgact tctttgtggg acttatgggc aagaggagcg tccagccaga 450 gggaaagaca ggacctttct taccttcagt gagggttcct cggccccttc 500 atcccaatca gcttggatcc acaggaaagt cttccctggg aacagaggag 550 cagagacctt tataagactc tcctacggat gtgaatcaag agaacgtccc 600 cagctttggc atcctcaagt atcccccgag agcagaatag gtactccact 650 tccggactcc tggactgcat taggaagacc tctttccctg tcccaatccc 700 caggtgcgca cgctcctgtt accctttctc ttccctgttc ttgtaacatt 750 cttgtgcttt gactccttct ccatcttttc tacctgaccc tggtgtggaa 800 actgcatagt gaatatcccc aaccccaatg ggcattgact gtagaatacc 850 ctagagttcc tgtagtgtcc tacattaaaa atataatgtc tctctctatt 900 aaaaaaaaa aaaaaaaaaa aa 972

<210> 359

<211> 135

<212> PRT

<213> Homo sapiens

<400> 359

Met Arg Ile Met Leu Leu Phe Thr Ala Ile Leu Ala Phe Ser Leu 1 5 10 15

Ala Gln Ser Phe Gly Ala Val Cys Lys Glu Pro Gln Glu Glu Val 20 25 30

Val Pro Gly Gly Gly Arg Ser Lys Arg Asp Pro Asp Leu Tyr Gln 35 40 45

Leu Leu Gln Arg Leu Phe Lys Ser His Ser Ser Leu Glu Gly Leu 50 55 60

Leu Lys Ala Leu Ser Gln Ala Ser Thr Asp Pro Lys Glu Ser Thr 65 70 75

Ser Pro Glu Lys Arg Asp Met His Asp Phe Phe Val Gly Leu Met 80 85 90

Gly Lys Arg Ser Val Gln Pro Glu Gly Lys Thr Gly Pro Phe Leu 95 100 105

Pro Ser Val Arg Val Pro Arg Pro Leu His Pro Asn Gln Leu Gly 110 115

Ser Thr Gly Lys Ser Ser Leu Gly Thr Glu Glu Gln Arg Pro Leu 125 130 135

<210> 360

<211> 1738

<212> DNA

<213> Homo sapiens

<400> 360 gggcgtctcc ggctgctcct attgagctgt ctgctcgctg tgcccgctgt 50 geetgetgtg eeegetgt egeegetget acceettetg etggaegegg 100 gagacgccag cgagctggtg attggagccc tgcggagagc tcaagcgccc 150 agetetgece caggagecea ggetgeceeg tgagteceat agttgetgea 200 ggagtggagc catgagctgc gtcctgggtg gtgtcatccc cttggggctg 250 ctgttcctgg tctgcggatc ccaaggctac ctcctgccca acgtcactct 300 cttagaggag ctgctcagca aataccagca caacgagtct cactcccggg 350 teegeagage cateeceagg gaggacaagg aggagateet catgetgeae 400 aacaagcttc ggggccaggt gcagcctcag gcctccaaca tggagtacat 450 ggtgagcgcc ggctccggcc gcagaggctg gcaccggggg tggggcctgg 500 gccaccagcc tgctctgttc cccagccagc tctgttcccc agccagtgcg 550 tgtgatggct ggctcagggt ctcctctggc aggggaggat cccggctctg 600 ttctgttttg tttgtttgtt ttgagacagg gtctcactct gccactgacg 650 ctggagtgca atggcacaat cgtcatgccc tgaaacctta gactcccggg 700 gttaagcgat cctgcttcag cctcccaagt agctggaact acaggcatgc 750 accatggtgc ccagctagat tttaaatatt ttgtggagat gggggtcttg 800 ctacgttgcc caggetggtc ttgaactcct aggetcaagc aatcetectg 850 cctcagcctc tcaaagtgct aggattatag gcatgagtca ccctgtctgg 900 ctctggctct gttcttaaca ttctgccaaa acaacacacg tgggttccct 950 gtgcagagcc tgcctcgttg ccttcatgtc actcttggta gctccactgg 1000 gaacacaget etcageettt eccaeetgga ggeagagtgg ggaggggeee 1050 agggctgggc tttgctgatg ctgatctcag ctgtgccaca cgctagctgc 1100 accaccctga cttctcctta gcccgtgtga gcctcacttt ccacttggag 1150 agtccttcct cgcgtggttg ccatgactgt gagataagtc gaggctgtga 1200 agggcccggc acagactgac ctgcctcccc aacccctagg ctttgctaac 1250 cgggaaagga gctaacggtg acagaagaca gccaaggtca accctcccgg 1300 gtgattgtga tgggtgttcc aggtgtggtt gggcgatgct gctacttgac 1350

cccaagctcc agtgtggaaa cttccttcct ggctggttt ccagaactac 1400 agaggaatgg accacagtct tccagggtcc ctcctcgtcc accaaccggg 1450 agcctccacc ttggccatcc gtcagctatg aatggcttt taaacaaacc 1500 cacgtcccag cctgggtaac atggtaaagc cccgtctcta caaaaaaatc 1550 caagttagcc gggcatggtg gtgcgcacct gtagtcccag ctgcagtggg 1600 actgaggtgg aggtggaggt ggggggtggg agctgaggaa ggaggatcgc 1650 ttgagcctgg gtgacagag ctgcagtgag ctgaaaaaa 1738

<210> 361

<211> 159

<212> PRT

<213> Homo sapiens

<400> 361

Met Ser Cys Val Leu Gly Gly Val Ile Pro Leu Gly Leu Leu Phe 1 5 10 15

Leu Val Cys Gly Ser Gln Gly Tyr Leu Leu Pro Asn Val Thr Leu 20 25 30

Leu Glu Glu Leu Leu Ser Lys Tyr Gln His Asn Glu Ser His Ser 35 40 45

Arg Val Arg Arg Ala Ile Pro Arg Glu Asp Lys Glu Glu Ile Leu
50 55 60

Met Leu His Asn Lys Leu Arg Gly Gln Val Gln Pro Gln Ala Ser 65 70 75

Asn Met Glu Tyr Met Val Ser Ala Gly Ser Gly Arg Arg Gly Trp 80 85 90

His Arg Gly Trp Gly Leu Gly His Gln Pro Ala Leu Phe Pro Ser 95 100 105

Gln Leu Cys Ser Pro Ala Ser Ala Cys Asp Gly Trp Leu Arg Val 110 115 120

Ser Ser Gly Arg Gly Ser Arg Leu Cys Ser Val Leu Phe Val 125 130 135

Cys Phe Glu Thr Gly Ser His Ser Ala Thr Asp Ala Gly Val Gln $140 \,$ 145 $\,$ 150

Trp His Asn Arg His Ala Leu Lys Pro 155

<210> 362

<211> 422

<212> DNA

<213> Homo sapiens

<400> 362

aaggagaggc caccgggact tcagtgtctc ctccatccca ggagcgcagt 50

ggccactatg gggtctgggc tgccccttgt cctcctttg accctccttg 100 gcagctcaca tggaacaggg ccgggtatga ctttgcaact gaagctgaag 150 gagtcttttc tgacaaattc ctcctatgag tccagcttcc tggaattgct 200 tgaaaagctc tgcctcctcc tccatctcc ttcagggacc agcgtcaccc 250 tccaccatgc aagatctcaa caccatgttg tctgcaacac atgacagca 300 ttgaagcctg tgtccttctt ggcccgggct tttgggccgg ggatgcagga 350 ggcaggcccc gaccctgtct ttcagcaggc ccccaccctc ctgagtggca 400 ataaataaaa ttcggtatgc tg 422

<210> 363

<211> 78

<212> PRT

<213> Homo sapiens

<400> 363

Met Gly Ser Gly Leu Pro Leu Val Leu Leu Leu Thr Leu Leu Gly 1 5 10

Ser Ser His Gly Thr Gly Pro Gly Met Thr Leu Gln Leu Lys Leu 20 25 30

Lys Glu Ser Phe Leu Thr Asn Ser Ser Tyr Glu Ser Ser Phe Leu 35 40 45

Glu Leu Leu Glu Lys Leu Cys Leu Leu Leu His Leu Pro Ser Gly 50 55 60

Thr Ser Val Thr Leu His His Ala Arg Ser Gln His His Val Val
65 70 75

Cys Asn Thr

<210> 364

<211> 826

<212> DNA

<213> Homo sapiens

<400> 364

caagtgagtg ttaccttttc acttagtagg atgtgttgtt acgctagtaa 500 aatagaaacc tgtgtttatt ctcaggtatt ttagaaacaa cagccatcat 550 tttatttat gtgtgtgttc ttggctgtat tcataaatta tatattttgg 600 gctatcaaat attacttcat tcaatataaa taacaatagt agaagttgtt 650 tacttagata tgctttctag ttgcattttc tcagcctatg taagactact 700 ttgttgtaat agcctttgaa atttacagta ctgtctctc actatcttca 750 gattacttga ttcaaataaa ccaattatgt ttgtaattga tattaataaa 800 accagaataa aagttcatat ctaccc 826

<210> 365

<211> 67

<212> PRT

<213> Homo sapiens

<400> 365

Met Ile Gly Tyr Tyr Leu Ile Leu Phe Leu Met Trp Gly Ser Ser 1 10 15

Thr Val Phe Cys Val Leu Leu Ile Phe Thr Ile Ala Glu Ala Ser 20 25 30

Phe Ser Val Glu Asn Glu Cys Leu Val Asp Leu Cys Leu Leu Arg 35 40 45

Ile Cys Tyr Lys Leu Ser Gly Val Pro Asn Gln Cys Arg Val Pro $50 \hspace{1cm} 55 \hspace{1cm} 60 \hspace{1cm}$

Leu Pro Ser Asp Cys Ser Lys
65

<210> 366

<211> 2475

<212> DNA

<400> 366

<213> Homo sapiens

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tgagacatcc ttgagaagag ccacagcata agagactgcc ctgcttggtg 100
ttttgcagga tgatggtggc ccttcgagga gcttctgcat tgctggttct 150
gttccttgca gctttctgc ccccgccgca gtgtacccag gacccagcca 200
tggtgcatta catctaccag cgctttcgag tcttggagca agggctggaa 250
aaatgtaccc aagcaacgag ggcatacatt caagaattcc aagagttctc 300
aaaaaatata tctgtcatgc tgggaagatg tcagacctac acaagtgagt 350
acaagagtgc agtgggtaac ttggcactga gagttgaacg tgcccaacgg 400

aaaagatccg gactctgctg aatgcaagct gtgacaacat gctgatgggc 550 ataaagtctt tgaaaatagt gaagaagatg atggacacac atggctcttg 600 gatgaaagat gctgtctata actctccaaa ggtgtactta ttaattggat 650 ccagaaacaa cactgtttgg gaatttgcaa acatacgggc attcatggag 700 gataacacca agccagctcc ccggaagcaa atcctaacac tttcctggca 750 gggaacaggc caagtgatct acaaaggttt tctatttttt cataaccaag 800 caacttctaa tgagataatc aaatataacc tgcagaagag gactgtggaa 850 gatcgaatgc tgctcccagg aggggtaggc cgagcattgg tttaccagca 900 ctcccctca acttacattg acctggctgt ggatgagcat gggctctggg 950 ccatccactc tgggccaggc acccatagcc atttggttct cacaaagatt 1000 gageegggea caetgggagt ggageattea tgggatacce catgeagaag 1050 ccaggatgct gaagcctcat tcctcttgtg tggggttctc tatgtggtct 1100 acaqtactgg gggccagggc cctcatcgca tcacctgcat ctatgatcca 1150 ctqqqcacta tcaqtqagga ggacttgccc aacttgttct tccccaagag 1200 accaagaagt cactccatga tccattacaa ccccagagat aagcagctct 1250 atgcctggaa tgaaggaaac cagatcattt acaaactcca gacaaagaga 1300 aagctgcctc tgaagtaatg cattacagct gtgagaaaga gcactgtggc 1350 tttggcagct gttctacagg acagtgaggc tatagcccct tcacaatata 1400 gtatccctct aatcacaca aggaagagtg tgtagaagtg gaaatacgta 1450 tgcctccttt cccaaatgtc actgccttag gtatcttcca agagcttaga 1500 tgagagcata tcatcaggaa agtttcaaca atgtccatta ctcccccaaa 1550 cctcctggct ctcaaggatg accacattct gatacagcct acttcaagcc 1600 ttttgtttta ctgctcccca gcatttactg taactctgcc atcttccctc 1650 ccacaattag agttgtatgc cagcccctaa tattcaccac tggcttttct 1700 ctcccctggc ctttgctgaa gctcttccct ctttttcaaa tgtctattga 1750 tattctccca ttttcactgc ccaactaaaa tactattaat atttctttct 1800 tttcttttct tttttttgag acaaggtctc actatgttgc ccaggctggt 1850 ctcaaactcc agagctcaag agatcctcct gcctcagcct cctaagtacc 1900 tgggattaca ggcatgtgcc accacactg gcttaaaata ctatttctta 1950 ttgaggttta acctctattt cccctagccc tgtccttcca ctaagcttgg 2000 tagatgtaat aataaagtga aaatattaac atttgaatat cgctttccag 2050 gtgtggagtg tttgcacatc attgaattct cgtttcacct ttgtgaaaca 2100

tgcacaagtc tttacagctg tcattctaga gtttaggtga gtaacacaat 2150 tacaaagtga aagatacagc tagaaaatac tacaaatccc atagttttc 2200 cattgcccaa ggaagcatca aatacgtatg tttgttcacc tactcttata 2250 gtcaatgcgt tcatcgtttc agcctaaaaa taatagtctg tccctttagc 2300 cagttttcat gtctgcacaa gacctttcaa taggcctttc aaatgataat 2350 tcctccagaa aaccagtcta agggtgagga ccccaactct agcctcctct 2400 tgtcttgctg tcctctgttt ctctctttct gctttaaatt caataaagt 2450 gacactgagc aaaaaaaaa aaaaa 2475

<210> 367

<211> 402

<212> PRT

<213> Homo sapiens

<400> 367

Met Met Val Ala Leu Arg Gly Ala Ser Ala Leu Leu Val Leu Phe 1 5 10

Leu Ala Ala Phe Leu Pro Pro Pro Gln Cys Thr Gln Asp Pro Ala 20 25 30

Met Val His Tyr Ile Tyr Gln Arg Phe Arg Val Leu Glu Gln Gly 35 40 45

Leu Glu Lys Cys Thr Gln Ala Thr Arg Ala Tyr Ile Gln Glu Phe 50 55 60

Gln Glu Phe Ser Lys Asn Ile Ser Val Met Leu Gly Arg Cys Gln 65 70 75

Thr Tyr Thr Ser Glu Tyr Lys Ser Ala Val Gly Asn Leu Ala Leu 80 85 90

Arg Val Glu Arg Ala Gln Arg Glu Ile Asp Tyr Ile Gln Tyr Leu 95 100 105

Arg Glu Ala Asp Glu Cys Ile Val Ser Glu Asp Lys Thr Leu Ala 110 115 120

Glu Met Leu Leu Gln Glu Ala Glu Glu Glu Lys Lys Ile Arg Thr 125 130 135

Leu Leu Asn Ala Ser Cys Asp Asn Met Leu Met Gly Ile Lys Ser 140 145 150

Leu Lys Ile Val Lys Lys Met Met Asp Thr His Gly Ser Trp Met 155 160 165

Lys Asp Ala Val Tyr Asn Ser Pro Lys Val Tyr Leu Leu Ile Gly
170 175 180

Ser Arg Asn Asn Thr Val Trp Glu Phe Ala Asn Ile Arg Ala Phe 185 190 195

Met Glu Asp Asn Thr Lys Pro Ala Pro Arg Lys Gln Ile Leu Thr 200 205 210

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Leu Ser Trp Gln Gly Thr Gly Gln Val Ile Tyr Lys Gly Phe Leu
Phe Phe His Asn Gln Ala Thr Ser Asn Glu Ile Ile Lys Tyr Asn
Leu Gln Lys Arg Thr Val Glu Asp Arg Met Leu Leu Pro Gly Gly
                                                         255
                                    250
Val Gly Arg Ala Leu Val Tyr Gln His Ser Pro Ser Thr Tyr Ile
                260
Asp Leu Ala Val Asp Glu His Gly Leu Trp Ala Ile His Ser Gly
                                                         285
Pro Gly Thr His Ser His Leu Val Leu Thr Lys Ile Glu Pro Gly
Thr Leu Gly Val Glu His Ser Trp Asp Thr Pro Cys Arg Ser Gln
                                                         315
Asp Ala Glu Ala Ser Phe Leu Leu Cys Gly Val Leu Tyr Val Val
                                    325
Tyr Ser Thr Gly Gly Gln Gly Pro His Arg Ile Thr Cys Ile Tyr
Asp Pro Leu Gly Thr Ile Ser Glu Glu Asp Leu Pro Asn Leu Phe
                                                         360
                                     355
Phe Pro Lys Arg Pro Arg Ser His Ser Met Ile His Tyr Asn Pro
                365
Arg Asp Lys Gln Leu Tyr Ala Trp Asn Glu Gly Asn Gln Ile Ile
                                                         390
Tyr Lys Leu Gln Thr Lys Arg Lys Leu Pro Leu Lys
                395
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<210> 368

<211> 2281

<212> DNA

<213> Homo sapiens

<400> 368

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gctggaccac gccaccctgg tgcgcttcag ccctgactgc agagccttca 500 tcgtctggct ggccaacggg gacaccctcc gtgtcttcaa gatgaccaag 550 cgggaggatg ggggctacac cttcacagcc accccagagg acttccctaa 600 aaaqcacaaq qcgcctgtca tcgacattgg cattgctaac acagggaagt 650 ttatcatgac tgcctccagt gacaccactg tcctcatctg gagcctgaag 700 ggtcaagtgc tgtctaccat caacaccaac cagatgaaca acacacacgc 750 tgctgtatct ccctgtggca gatttgtagc ctcgtgtggc ttcaccccag 800 atgtgaaggt ttgggaagtc tgctttggaa agaaggggga gttccaggag 850 gtggtgcgag ccttcgaact aaagggccac tccgcggctg tgcactcgtt 900 tgctttctcc aacgactcac ggaggatggc ttctgtctcc aaggatggta 950 catggaaact gtgggacaca gatgtggaat acaagaagaa gcaggacccc 1000 tacttgctga agacaggccg ctttgaagag gcggcgggtg ccgcgccgtg 1050 ccgcctggcc ctctccccca acgcccaggt cttggccttg gccagtggca 1100 gtagtattca tctctacaat acccggcggg gcgagaagga ggagtgcttt 1150 gagegggtee atggegagtg tategeeaac ttgteetttg acateaetgg 1200 ccgctttctg gcctcctgtg gggaccgggc ggtgcggctg tttcacaaca 1250 ctcctggcca ccgagccatg gtggaggaga tgcagggcca cctgaagcgg 1300 gcctccaacg agagcacccg ccagaggctg cagcagcagc tgacccaggc 1350 ccaagagacc ctgaagagcc tgggtgccct gaagaagtga ctctgggagg 1400 gcccggcgca gaggattgag gaggagggat ctggcctcct catggcactg 1450 ctgccatctt tcctcccagg tggaagcctt tcagaaggag tctcctggtt 1500 ttcttactgg tggccctgct tcttcccatt gaaactactc ttgtctactt 1550 aggtetetet ettettgetg getgtgaete etecetgaet agtggeeaag 1600 gtgcttttct tcctcccagg cccagtgggt ggaatctgtc cccacctggc 1650 tggccttgtg gcagcacatc ctcacaccca aagaagtttg taaatgttcc 1750 agaacaacct agagaacacc tgagtactaa gcagcagttt tgcaaggatg 1800 qqaqactqqq atagcttccc atcacagaac tgtgttccat caaaaagaca 1850 ctaagggatt tccttctggg cctcagttct atttgtaaga tggagaataa 1900 tcctctctgt gaactccttg caaagatgat atgaggctaa gagaatatca 1950 agtccccagg tctggaagaa aagtagaaaa gagtagtact attgtccaat 2000 gtcatgaaag tggtaaaagt gggaaccagt gtgctttgaa accaaattag 2050

<210> 369

<211> 447

<212> PRT

<213> Homo sapiens

<400> 369

Met Glu Leu Ser Gln Met Ser Glu Leu Met Gly Leu Ser Val Leu
1 5 10 15

Leu Gly Leu Leu Ala Leu Met Ala Thr Ala Ala Val Ala Arg Gly 20 25 30

Trp Leu Arg Ala Gly Glu Glu Arg Ser Gly Arg Pro Ala Cys Gln
35 40 45

Lys Ala Asn Gly Phe Pro Pro Asp Lys Ser Ser Gly Ser Lys Lys
50 55 60

Gln Lys Gln Tyr Gln Arg Ile Arg Lys Glu Lys Pro Gln Gln His
65 70 75

Asn Phe Thr His Arg Leu Leu Ala Ala Ala Leu Lys Ser His Ser 80 85 90

Gly Asn Ile Ser Cys Met Asp Phe Ser Ser Asn Gly Lys Tyr Leu 95 100 105

Ala Thr Cys Ala Asp Asp Arg Thr Ile Arg Ile Trp Ser Thr Lys 110 115 120

Asp Phe Leu Gln Arg Glu His Arg Ser Met Arg Ala Asn Val Glu 125 130 135

Leu Asp His Ala Thr Leu Val Arg Phe Ser Pro Asp Cys Arg Ala 140 145 150

Phe Ile Val Trp Leu Ala Asn Gly Asp Thr Leu Arg Val Phe Lys 155 160

Met Thr Lys Arg Glu Asp Gly Gly Tyr Thr Phe Thr Ala Thr Pro 170 175 180

Glu Asp Phe Pro Lys Lys His Lys Ala Pro Val Ile Asp Ile Gly 185 190 195

Ile Ala Asn Thr Gly Lys Phe Ile Met Thr Ala Ser Ser Asp Thr 200 205 210

Thr Val Leu Ile Trp Ser Leu Lys Gly Gln Val Leu Ser Thr Ile 215 220 225

Asn Thr Asn Gln Met Asn Asn Thr His Ala Ala Val Ser Pro Cys 230 235 240

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Gly Arg Phe Val Ala Ser Cys Gly Phe Thr Pro Asp Val Lys Val
Trp Glu Val Cys Phe Gly Lys Lys Gly Glu Phe Gln Glu Val Val
Arg Ala Phe Glu Leu Lys Gly His Ser Ala Ala Val His Ser Phe
                                    280
                                                        285
Ala Phe Ser Asn Asp Ser Arg Arg Met Ala Ser Val Ser Lys Asp
                290
Gly Thr Trp Lys Leu Trp Asp Thr Asp Val Glu Tyr Lys Lys
                                                         315
                305
Gln Asp Pro Tyr Leu Leu Lys Thr Gly Arg Phe Glu Glu Ala Ala
Gly Ala Ala Pro Cys Arg Leu Ala Leu Ser Pro Asn Ala Gln Val
                                                         345
Leu Ala Leu Ala Ser Gly Ser Ser Ile His Leu Tyr Asn Thr Arg
                350
Arg Gly Glu Lys Glu Glu Cys Phe Glu Arg Val His Gly Glu Cys
Ile Ala Asn Leu Ser Phe Asp Ile Thr Gly Arg Phe Leu Ala Ser
                                     385
Cys Gly Asp Arg Ala Val Arg Leu Phe His Asn Thr Pro Gly His
Arg Ala Met Val Glu Glu Met Gln Gly His Leu Lys Arg Ala Ser
Asn Glu Ser Thr Arg Gln Arg Leu Gln Gln Gln Leu Thr Gln Ala
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Gln Glu Thr Leu Lys Ser Leu Gly Ala Leu Lys Lys
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<210> 370

<211> 1415

<212> DNA

<213> Homo sapiens

<400> 370

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atttttaggc gcttgcctgg tctcaggata cccaccatcc ttttcctgag 450 cacagootgg attittatti otgocatgaa accoagotoo catgactoto 500 ccagtcccta cactgactac cctgatctct cttgtctagt acgcacatat 550 gcacacagge agacatacet eccateatga catggteece aggetggeet 600 gaggatgtca cagcttgagg ctgtggtgtg aaaggtggcc agcctggttc 650 tcttccctgc tcaggctgcc agagaggtgg taaatggcag aaaggacatt 700 cccctcccc tccccaggtg acctgctctc tttcctgggc cctgcccctc 750 tececacatg tatecetegg tetgaattag acatteetgg geacaggete 800 ttgggtgcat tgctcagagt cccaggtcct ggcctgaccc tcaggccctt 850 cacgtgaggt ctgtgaggac caatttgtgg gtagttcatc ttccctcgat 900 tggttaactc cttagtttca gaccacagac tcaagattgg ctcttcccag 950 agggcagcag acagtcaccc caaggcaggt gtagggagcc cagggaggcc 1000 aatcagcccc ctgaagactc tggtcccagt cagcctgtgg cttgtggcct 1050 gtgacctgtg accttctgcc agaattgtca tgcctctgag gccccctctt 1100 accacacttt accagttaac cactgaagcc cccaattccc acagcttttc 1150 cattaaaatg caaatggtgg tggttcaatc taatctgata ttgacatatt 1200 agaaggcaat tagggtgttt ccttaaacaa ctcctttcca aggatcagcc 1250 ctgagagcag gttggtgact ttgaggaggg cagtcctctg tccagattgg 1300 ggtgggagca agggacaggg agcagggcag gggctgaaag gggcactgat 1350 tcagaccagg gaggcaacta cacaccaaca tgctggcttt agaataaaag 1400 caccaactga aaaaa 1415

<210> 371

<211> 105

<212> PRT

<213> Homo sapiens

<400> 371

Met Arg Gly Ala Thr Arg Val Ser Ile Met Leu Leu Val Thr 1 5 10 15

Val Ser Asp Cys Ala Val Ile Thr Gly Ala Cys Glu Arg Asp Val 20 25 30

Gln Cys Gly Ala Gly Thr Cys Cys Ala Ile Ser Leu Trp Leu Arg 35 40 45

Gly Leu Arg Met Cys Thr Pro Leu Gly Arg Glu Gly Glu Glu Cys
50 55 60

His Pro Gly Ser His Lys Val Pro Phe Phe Arg Lys Arg Lys His
65 70 75

His Thr Cys Pro Cys Leu Pro Asn Leu Leu Cys Ser Arg Phe Pro 80 85 90

Asp Gly Arg Tyr Arg Cys Ser Met Asp Leu Lys Asn Ile Asn Phe 95 100 105

<210> 372

<211> 1281

<212> DNA

<213> Homo sapiens

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<210> 373
<211> 229
<212> PRT
<213> Homo sapiens
<400> 373
 Met Ser Phe Leu Gln Asp Pro Ser Phe Phe Thr Met Gly Met Trp
 Ser Ile Gly Ala Gly Ala Leu Gly Ala Ala Ala Leu Ala Leu Leu
 Leu Ala Asn Thr Asp Val Phe Leu Ser Lys Pro Gln Lys Ala Ala
 Leu Glu Tyr Leu Glu Asp Ile Asp Leu Lys Thr Leu Glu Lys Glu
 Pro Arg Thr Phe Lys Ala Lys Glu Leu Trp Glu Lys Asn Gly Ala
 Val Ile Met Ala Val Arg Arg Pro Gly Cys Phe Leu Cys Arg Glu
 Glu Ala Ala Asp Leu Ser Ser Leu Lys Ser Met Leu Asp Gln Leu
 Gly Val Pro Leu Tyr Ala Val Val Lys Glu His Ile Arg Thr Glu
                                                          120
                                      115
 Val Lys Asp Phe Gln Pro Tyr Phe Lys Gly Glu Ile Phe Leu Asp
                  125
 Glu Lys Lys Lys Phe Tyr Gly Pro Gln Arg Arg Lys Met Met Phe
                                                          150
                                      145
 Met Gly Phe Ile Arg Leu Gly Val Trp Tyr Asn Phe Phe Arg Ala
                                      160
 Trp Asn Gly Gly Phe Ser Gly Asn Leu Glu Gly Glu Gly Phe Ile
 Leu Gly Gly Val Phe Val Val Gly Ser Gly Lys Gln Gly Ile Leu
                                                           195
 Leu Glu His Arg Glu Lys Glu Phe Gly Asp Lys Val Asn Leu Leu
                                      205
 Ser Val Leu Glu Ala Ala Lys Met Ile Lys Pro Gln Thr Leu Ala
 Ser Glu Lys Lys
<210> 374
<211> 744
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<212> DNA

<213> Homo sapiens

<400> 374

acggaccgag ggttcgaggg agggacacgg accaggaacc tgagctaggt 50 caaagacgcc cgggccaggt gccccgtcgc aggtgcccct ggccggagat 100

<210> 375

<211> 123

<212> PRT

<213> Homo sapiens

<400> 375

Met Ala Asn Pro Gly Leu Gly Leu Leu Leu Ala Leu Gly Leu Pro 1 5 10 15

Phe Leu Leu Ala Arg Trp Gly Arg Ala Trp Gly Gln Ile Gln Thr 20 25 30

Thr Ser Ala Asn Glu Asn Ser Thr Val Leu Pro Ser Ser Thr Ser 35 40 45

Ser Ser Ser Asp Gly Asn Leu Arg Pro Glu Ala Ile Thr Ala Ile 50 55 60

Ile Val Val Phe Ser Leu Leu Ala Ala Leu Leu Leu Ala Val Gly 65 70 75

Leu Ala Leu Leu Val Arg Lys Leu Arg Glu Lys Arg Gln Thr Glu
80 85 90

Gly Thr Tyr Arg Pro Ser Ser Glu Glu Gln Phe Ser His Ala Ala 95 100 105

Glu Ala Arg Ala Pro Gln Asp Ser Lys Glu Thr Val Gln Gly Cys 110 115 120

Leu Pro Ile

<210> 376

<211> 713

<212> DNA

<213> Homo sapiens

<400> 376 aatatatcat ctatttatca ttaatcaata atgtattctt ttattccaat 50 aacatttggg ttttgggatt ttaattttca aacacagcag aatgacattt 100 tttctgtcac tattattatt gttggtatgt gaagctattt ggagatccaa 150 ttcaggaagc aacacattgg agaatggcta ctttctatca agaaataaag 200 agaaccacag tcaacccaca caatcatctt tagaagacag tgtgactcct 250 accaaagctg tcaaaaccac aggcaagggc atagttaaag gacggaatct 300 tgactcaaga gggttaattc ttggtgctga agcctggggc aggggtgtaa 350 agaaaaacac ttagattcaa tgattgtaaa tttaaggcaa atacacatat 400 tagtattacc ttagtgtaat gtatccctgt catatataca ataaggtgaa 450 attataagta ccctatgcag ttggctggac agttctaaat tggactttat 500 taatttttaa aatcagtaac tgatttatca ctggctatgt gcttagatct 550 acaggagatc atataatttg atacaaataa aagaaaagtg ttctctcccc 600 ttacagaatt gacattttaa atgcgataca gttagaatag gaaatatgac 650 attagaaagg aagaatgaca gggagaaagg aaagaaggga aaatgttgcc 700 aaggaaaaaa aaa 713

<210> 377 <211> 90 <212> PRT

<213> Homo sapiens

<400> 377

Met Thr Phe Phe Leu Ser Leu Leu Leu Leu Leu Val Cys Glu Ala 1 5 10 15

Ile Trp Arg Ser Asn Ser Gly Ser Asn Thr Leu Glu Asn Gly Tyr $20 \hspace{1cm} 25 \hspace{1cm} 30$

Phe Leu Ser Arg Asn Lys Glu Asn His Ser Gln Pro Thr Gln Ser 35 40 45

Ser Leu Glu Asp Ser Val Thr Pro Thr Lys Ala Val Lys Thr Thr 50 60

Gly Lys Gly Ile Val Lys Gly Arg Asn Leu Asp Ser Arg Gly Leu 65 70 75

Ile Leu Gly Ala Glu Ala Trp Gly Arg Gly Val Lys Lys Asn Thr

<210> 378

<211> 3265

<212> DNA

<213> Homo sapiens

<400> 378

cctcttagtt ctgtgcctgc tgcaccagtc aaatacttcc ttcattaagc 100 tgaataataa tggctttgaa gatattgtca ttgttataga tcctagtgtg 150 ccagaagatg aaaaaataat tgaacaaata gaggatatgg tgactacagc 200 ttctacgtac ctgtttgaag ccacagaaaa aagatttttt ttcaaaaatg 250 tatctatatt aattcctgag aattggaagg aaaatcctca gtacaaaagg 300 ccaaaacatg aaaaccataa acatgctgat gttatagttg caccacctac 350 actcccaggt agagatgaac catacaccaa gcagttcaca gaatgtggag 400 agaaaggcga atacattcac ttcacccctg accttctact tggaaaaaaa 450 caaaatgaat atggaccacc aggcaaactg tttgtccatg agtgggctca 500 cctccggtgg ggagtgtttg atgagtacaa tgaagatcag cctttctacc 550 gtgctaagtc aaaaaaaatc gaagcaacaa ggtgttccgc aggtatctct 600 ggtagaaata gagtttataa gtgtcaagga ggcagctgtc ttagtagagc 650 atgcagaatt gattctacaa caaaactgta tggaaaagat tgtcaattct 700 ttcctgataa agtacaaaca gaaaaagcat ccataatgtt tatgcaaagt 750 attgattctg ttgttgaatt ttgtaacgaa aaaacccata atcaagaagc 800 tccaagccta caaaacataa agtgcaattt tagaagtaca tgggaggtga 850 ttagcaattc tgaggatttt aaaaacacca tacccatggt gacaccacct 900 cctccacctg tcttctcatt gctgaagatc agtcaaagaa ttgtgtgctt 950 agttcttgat aagtctggaa gcatgggggg taaggaccgc ctaaatcgaa 1000 tgaatcaagc agcaaaacat ttcctgctgc agactgttga aaatggatcc 1050 tgggtgggga tggttcactt tgatagtact gccactattg taaataagct 1100 aatccaaata aaaagcagtg atgaaagaaa cacactcatg gcaggattac 1150 ctacatatcc tctgggagga acttccatct gctctggaat taaatatgca 1200 tttcaggtga ttggagagct acattcccaa ctcgatggat ccgaagtact 1250 gctgctgact gatggggagg ataacactgc aagttcttgt attgatgaag 1300 tgaaacaaag tggggccatt gttcatttta ttgctttggg aagagctgct 1350 gatgaagcag taatagagat gagcaagata acaggaggaa gtcattttta 1400 tgtttcagat gaagctcaga acaatggcct cattgatgct tttggggctc 1450 ttacatcagg aaatactgat ctctcccaga agtcccttca gctcgaaagt 1500 aagggattaa cactgaatag taatgcctgg atgaacgaca ctgtcataat 1550 tgatagtaca gtgggaaagg acacgttctt tctcatcaca tggaacagtc 1600 tgcctcccag tatttctctc tgggatccca gtggaacaat aatggaaaat 1650

ttcacagtgg atgcaacttc caaaatggcc tatctcagta ttccaggaac 1700 tgcaaaggtg ggcacttggg catacaatct tcaagccaaa gcgaacccag 1750 aaacattaac tattacagta acttctcgag cagcaaattc ttctgtgcct 1800 ccaatcacag tgaatgctaa aatgaataag gacgtaaaca gtttccccag 1850 cccaatgatt gtttacgcag aaattctaca aggatatgta cctgttcttg 1900 gagccaatgt gactgctttc attgaatcac agaatggaca tacagaagtt 1950 ttggaacttt tggataatgg tgcaggcgct gattctttca agaatgatgg 2000 agtctactcc aggtatttta cagcatatac agaaaatggc agatatagct 2050 taaaagttcg ggctcatgga ggagcaaaca ctgccaggct aaaattacgg 2100 cctccactga atagagccgc gtacatacca ggctgggtag tgaacgggga 2150 aattgaagca aacccgccaa gacctgaaat tgatgaggat actcagacca 2200 ccttggagga tttcagccga acagcatccg gaggtgcatt tgtggtatca 2250 caagtcccaa gccttccctt gcctgaccaa tacccaccaa gtcaaatcac 2300 agaccttgat gccacagttc atgaggataa gattattctt acatggacag 2350 caccaggaga taattttgat gttggaaaag ttcaacgtta tatcataaga 2400 ataagtgcaa gtattcttga tctaagagac agttttgatg atgctcttca 2450 agtaaatact actgatctgt caccaaagga ggccaactcc aaggaaagct 2500 ttgcatttaa accagaaaat atctcagaag aaaatgcaac ccacatattt 2550 attgccatta aaagtataga taaaagcaat ttgacatcaa aagtatccaa 2600 cattgcacaa gtaactttgt ttatccctca agcaaatcct gatgacattg 2650 atcctacacc tactcctact cctactccta ctcctgataa aagtcataat 2700 tctggagtta atattctac gctggtattg tctgtgattg ggtctgttgt 2750 aattgttaac tttattttaa gtaccaccat ttgaacctta acgaagaaaa 2800 aaatcttcaa gtagacctag aagagagttt taaaaaacaa aacaatgtaa 2850 gtaaaggata tttctgaatc ttaaaattca tcccatgtgt gatcataaac 2900 tcataaaaat aattttaaga tgtcggaaaa ggatactttg attaaataaa 2950 aacactcatg gatatgtaaa aactgtcaag attaaaattt aatagtttca 3000 tttatttgtt attttatttg taagaaatag tgatgaacaa agatcctttt 3050 tcatactgat acctggttgt atattatttg atgcaacagt tttctgaaat 3100 gatatttcaa attgcatcaa gaaattaaaa tcatctatct gagtagtcaa 3150 aatacaagta aaggagagca aataaacaac atttggaaaa aaaaaaaaa 3200

aaaaaaaaa aaaaa 3265

<210> 379

<211> 919

<212> PRT

<213> Homo sapiens

<400> 379

Met Gly Leu Phe Arg Gly Phe Val Phe Leu Leu Val Leu Cys Leu
1 10 15

Leu His Gln Ser Asn Thr Ser Phe Ile Lys Leu Asn Asn Gly 20 25 30

Phe Glu Asp Ile Val Ile Val Ile Asp Pro Ser Val Pro Glu Asp 35 40 45

Glu Lys Ile Ile Glu Gln Ile Glu Asp Met Val Thr Thr Ala Ser 50 55 60

Thr Tyr Leu Phe Glu Ala Thr Glu Lys Arg Phe Phe Lys Asn 65 70 75

Val Ser Ile Leu Ile Pro Glu Asn Trp Lys Glu Asn Pro Gln Tyr 80 85 90

Lys Arg Pro Lys His Glu Asn His Lys His Ala Asp Val Ile Val 95 100 105

Ala Pro Pro Thr Leu Pro Gly Arg Asp Glu Pro Tyr Thr Lys Gln 110 115

Phe Thr Glu Cys Gly Glu Lys Gly Glu Tyr Ile His Phe Thr Pro 125 130 135

Asp Leu Leu Gly Lys Lys Gln Asn Glu Tyr Gly Pro Pro Gly 140 145 150

Lys Leu Phe Val His Glu Trp Ala His Leu Arg Trp Gly Val Phe 155 $$ 160 $$ 165

Asp Glu Tyr Asn Glu Asp Gln Pro Phe Tyr Arg Ala Lys Ser Lys 170 175 180

Lys Ile Glu Ala Thr Arg Cys Ser Ala Gly Ile Ser Gly Arg Asn 185 190 195

Arg Val Tyr Lys Cys Gln Gly Gly Ser Cys Leu Ser Arg Ala Cys 200 205 210

Arg Ile Asp Ser Thr Thr Lys Leu Tyr Gly Lys Asp Cys Gln Phe 215 220 225

Phe Pro Asp Lys Val Gln Thr Glu Lys Ala Ser Ile Met Phe Met 230 235 240

Gln Ser Ile Asp Ser Val Val Glu Phe Cys Asn Glu Lys Thr His 245 250 255

Asn Gln Glu Ala Pro Ser Leu Gln Asn Ile Lys Cys Asn Phe Arg 260 265 270

Ser Thr Trp Glu Val Ile Ser Asn Ser Glu Asp Phe Lys Asn Thr

	275					280					285
Ile Pro Met	Val Thr 290	Pro	Pro	Pro	Pro	Pro 295	Val	Phe	Ser	Leu	Leu 300
Lys Ile Ser	Gln Arg 305	Ile	Val	Cys	Leu	Val 310	Leu	Asp	Lys	Ser	Gly 315
Ser Met Gly	Gly Lys 320	Asp .	Arg	Leu	Asn	Arg 325	Met	Asn	Gln	Ala	Ala 330
Lys His Phe	Leu Leu 335	Gln	Thr	Val	Glu	Asn 340	Gly	Ser	Trp	Val	Gly 345
Met Val His	Phe Asp 350	Ser	Thr	Ala	Thr	Ile 355	Val	Asn	Lys	Leu	Ile 360
Gln Ile Lys	Ser Ser 365	Asp	Glu	Arg	Asn	Thr 370	Leu	Met	Ala	Gly	Leu 375
Pro Thr Tyr	Pro Leu 380	Gly	Gly	Thr	Ser	Ile 385	Cys	Ser	Gly	Ile	Lys 390
Tyr Ala Phe	Gln Val 395	Ile	Gly	Glu	Leu	His 400	Ser	Gln	Leu	Asp	Gly 405
Ser Glu Val	Leu Leu 410	Leu	Thr	Asp	Gly	Glu 415	Asp	Asn	Thr	Ala	Ser 420
Ser Cys Ile	Asp Glu 425	Val	Lys	Gln	Ser	Gly 430	Ala	Ile	Val	His	Phe 435
Ile Ala Leu	Gly Arg 440	Ala	Ala	Asp	Glu	Ala 445	Val	Ile	Glu	Met	Ser 450
Lys Ile Thr	Gly Gly 455	Ser	His	Phe	Tyr	Val 460	Ser	Asp	Glu	Ala	Gln 465
Asn Asn Gly	Leu Ile 470	Asp	Ala	Phe	Gly	Ala 475	Leu	Thr	Ser	Gly	Asn 480
Thr Asp Leu	Ser Gln 485	Lys	Ser	Leu	Gln	Leu 490	Glu	Ser	Lys	Gly	Leu 495
Thr Leu Asn	Ser Asn 500	Ala	Trp	Met	Asn	Asp 505	Thr	Val	Ile	Ile	Asp 510
Ser Thr Val	Gly Lys 515		Thr	Phe	Phe	Leu 520	Ile	Thr	Trp	Asn	Ser 525
Leu Pro Pro	Ser Ile 530		Leu	Trp	Asp	Pro 535	Ser	Gly	Thr	Ile	Met 540
Glu Asn Phe	Thr Val		Ala	Thr	Ser	Lys 550	Met	Ala	Tyr	Leu	Ser 555
Ile Pro Gly	Thr Ala 560		Val	Gly	Thr	Trp 565	Ala	Tyr	Asn	Leu	Gln 570
Ala Lys Ala	Asn Pro		Thr	Leu	Thr	Ile 580	Thr	Val	Thr	Ser	Arg 585
Ala Ala Asn	Ser Ser	Val	Pro	Pro	Ile	Thr	Val	Asn	Ala	Lys	Met

				590					595					600
Asn	Lys	Asp	Val	Asn 605	Ser	Phe	Pro	Ser	Pro 610	Met	Ile	Val	Tyr	Ala 615
Glu	Ile	Leu	Gln	Gly 620	Tyr	Val	Pro	Val	Leu 625	Gly	Ala	Asn	Val	Thr 630
Ala	Phe	Ile	Glu	Ser 635	Gln	Asn	Gly	His	Thr 640	Glu	Val	Leu	Glu	Leu 645
Leu	Asp	Asn	Gly	Ala 650	Gly	Ala	Asp	Ser	Phe 655	Lys	Asn	Asp	Gly	Val 660
Tyr	Ser	Arg	Tyr	Phe 665	Thr	Ala	Tyr	Thr	Glu 670	Asn	Gly	Arg	Tyr	Ser 675
Leu	Lys	Val	Arg	Ala 680	His	Gly	Gly	Ala	Asn 685	Thr	Ala	Arg	Leu	Lys 690
Leu	Arg	Pro	Pro	Leu 695	Asn	Arg	Ala	Ala	Tyr 700	Ile	Pro	Gly	Trp	Val 705
Val	Asn	Gly	Glu	Ile 710	Glu	Ala	Asn	Pro	Pro 715	Arg	Pro	Glu	Ile	Asp 720
Glu	Asp	Thr	Gln	Thr 725	Thr	Leu	Glu	Asp	Phe 730	Ser	Arg	Thr	Ala	Ser 735
Gly	Gly	Ala	Phe	Val 740	Val	Ser	Gln	Val	Pro 745	Ser	Leu	Pro	Leu	Pro 750
Asp	Gln	Tyr	Pro	Pro 755	Ser	Gln	Ile	Thr	Asp 760	Leu	Asp	Ala	Thr	Val 765
His	Glu	Asp	Lys	Ile 770	Ile	Leu	Thr	Trp	Thr 775	Ala	Pro	Gly	Asp	Asn 780
Phe	Asp	Val	Gly	Lys 785	Val	Gln	Arg	Tyr	Ile 790	Ile	Arg	Ile	Ser	Ala 795
Ser	Ile	Leu	Asp	Leu 800	Arg	Asp	Ser	Phe	Asp 805	Asp	Ala	Leu	Gln	Val 810
Asn	Thr	Thr	Asp	Leu 815	Ser	Pro	Lys	Glu	Ala 820	Asn	Ser	Lys	Glu	Ser 825
Phe	Ala	Phe	Lys	Pro 830	Glu	Asn	Ile	Ser	Glu 835		Asn	Ala	Thr	His 840
Ile	Phe	Ile	Ala	Ile 845	Lys	Ser	Ile	Asp	Lys 850	Ser	Asn	Leu	Thr	Ser 855
Lys	Val	Ser	Asn	Ile 860		Gln	Val	Thr	Leu 865		Ile	Pro	Gln	Ala 870
Asn	Pro	Asp	Asp	Ile 875		Pro	Thr	Pro	Thr 880		Thr	Pro	Thr	Pro 885
Thr	Pro	Asp	Lys	Ser 890		Asn	Ser	Gly	Val 895		Ile	Ser	Thr	Leu 900
Val	Leu	Ser	Val	Ile	Gly	Ser	Val	Val	Ile	Val	Asn	Phe	Ile	Leu

<210> 380 <211> 3877

<212> DNA

<213> Homo sapiens

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<212> PRT

<213> Homo sapiens

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Val Val Leu Leu Val Leu Cys Cys Ala Ile Ser Val Leu Tyr 20 25 30

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Leu Gln Glu Trp Glu Glu Gln His Arg Asn Tyr Val Ser Ser Leu
65 70 75

Lys Arg Gln Ile Ala Gln Leu Lys Glu Glu Leu Gln Glu Arg Ser 80 85 90

Glu Gln Leu Arq Asn Gly Gln Tyr Gln Ala Ser Asp Ala Ala Gly Leu Gly Leu Asp Arg Ser Pro Pro Glu Lys Thr Gln Ala Asp Leu Leu Ala Phe Leu His Ser Gln Val Asp Lys Ala Glu Val Asn Ala 130 Gly Val Lys Leu Ala Thr Glu Tyr Ala Ala Val Pro Phe Asp Ser Phe Thr Leu Gln Lys Val Tyr Gln Leu Glu Thr Gly Leu Thr Arg His Pro Glu Glu Lys Pro Val Arg Lys Asp Lys Arg Asp Glu Leu 175 Val Glu Ala Ile Glu Ser Ala Leu Glu Thr Leu Asn Asn Pro Ala 190 Glu Asn Ser Pro Asn His Arg Pro Tyr Thr Ala Ser Asp Phe Ile 200 205 Glu Gly Ile Tyr Arg Thr Glu Arg Asp Lys Gly Thr Leu Tyr Glu Leu Thr Phe Lys Gly Asp His Lys His Glu Phe Lys Arg Leu Ile 230 Leu Phe Arg Pro Phe Ser Pro Ile Met Lys Val Lys Asn Glu Lys 250 245 Leu Asn Met Ala Asn Thr Leu Ile Asn Val Ile Val Pro Leu Ala 260 Lys Arg Val Asp Lys Phe Arg Gln Phe Met Gln Asn Phe Arg Glu Met Cys Ile Glu Gln Asp Gly Arg Val His Leu Thr Val Val Tyr Phe Gly Lys Glu Glu Ile Asn Glu Val Lys Gly Ile Leu Glu Asn Thr Ser Lys Ala Ala Asn Phe Arg Asn Phe Thr Phe Ile Gln Leu 320 325 Asn Gly Glu Phe Ser Arg Gly Lys Gly Leu Asp Val Gly Ala Arg 335 Phe Trp Lys Gly Ser Asn Val Leu Leu Phe Phe Cys Asp Val Asp 355 Ile Tyr Phe Thr Ser Glu Phe Leu Asn Thr Cys Arg Leu Asn Thr 375 365 370 Gln Pro Gly Lys Lys Val Phe Tyr Pro Val Leu Phe Ser Gln Tyr 385 Asn Pro Gly Ile Ile Tyr Gly His His Asp Ala Val Pro Pro Leu 400

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Glu Gln Gln Leu Val Ile Lys Lys Glu Thr Gly Phe Trp Arg Asp
Phe Gly Phe Gly Met Thr Cys Gln Tyr Arg Ser Asp Phe Ile Asn
Ile Gly Gly Phe Asp Leu Asp Ile Lys Gly Trp Gly Glu Asp
                 440
                                     445
Val His Leu Tyr Arg Lys Tyr Leu His Ser Asn Leu Ile Val Val
Arg Thr Pro Val Arg Gly Leu Phe His Leu Trp His Glu Lys Arg
Cys Met Asp Glu Leu Thr Pro Glu Gln Tyr Lys Met Cys Met Gln
Ser Lys Ala Met Asn Glu Ala Ser His Gly Gln Leu Gly Met Leu
Val Phe Arg His Glu Ile Glu Ala His Leu Arg Lys Gln Lys Gln
Lys Thr Ser Ser Lys Lys Thr
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<223> Synthetic oligonucleotide probe
<400> 383
gcgaaggtga gcctctatct cgtgcc 26
<210> 384
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<211> 48
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<212> DNA
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aaggaaaat aaattttcca gtggagaata catataatat ggtgtagaaa 1050 tcattgaaaa tggatccttt ttgacgatca cttatatcac tctgtatatg 1100 actaagtaaa caaaagtgag aagtaattat tgtaaatgga tggataaaaa 1150

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- <211> 212
- <212> PRT
- <213> Homo sapiens
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- Leu Cys Gln Pro Gly Ala Glu Asn Ala Phe Lys Val Arg Leu Ser 20 25 30
- Ile Arg Thr Ala Leu Gly Asp Lys Ala Tyr Ala Trp Asp Thr Asn 35 40 45
- Glu Glu Tyr Leu Phe Lys Ala Met Val Ala Phe Ser Met Arg Lys
 50 55 60
- Val Pro Asn Arg Glu Ala Thr Glu Ile Ser His Val Leu Leu Cys
 65 70 75
- Asn Val Thr Gln Arg Val Ser Phe Trp Phe Val Val Thr Asp Pro 80 . 85
- Ser Lys Asn His Thr Leu Pro Ala Val Glu Val Gln Ser Ala Ile 95 100 105
- Arg Met Asn Lys Asn Arg Ile Asn Asn Ala Phe Phe Leu Asn Asp 110 115 120
- Gln Thr Leu Glu Phe Leu Lys Ile Pro Ser Thr Leu Ala Pro Pro 125 130 135
- Met Asp Pro Ser Val Pro Ile Trp Ile Ile Ile Phe Gly Val Ile 140 140 145
- Phe Cys Ile Ile Ile Val Ala Ile Ala Leu Leu Ile Leu Ser Gly 155 160 165
- Ile Trp Gln Arg Arg Arg Lys Asn Lys Glu Pro Ser Glu Val Asp 170 175 180
- Asp Ala Glu Asp Lys Cys Glu Asn Met Ile Thr Ile Glu Asn Gly 185 190 195
- Ile Pro Ser Asp Pro Leu Asp Met Lys Gly Gly Ile Leu Met Met 200 205 210

Pro Ser

- <210> 388
- <211> 1371
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- <213> Homo sapiens
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ccaggtgata gatttttgtc g 1371
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<211> 215

<212> PRT

<213> Homo sapiens

<400> 389

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<400> 391

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Thr Ser Arg Val Leu Glu Ala Val Asn Gly Thr Asp Ala Arg Leu
Lys Cys Thr Phe Ser Ser Phe Ala Pro Val Gly Asp Ala Leu Thr
Val Thr Trp Asn Phe Arg Pro Leu Asp Gly Gly Pro Glu Gln Phe
Val Phe Tyr Tyr His Ile Asp Pro Phe Gln Pro Met Ser Gly Arg
Phe Lys Asp Arg Val Ser Trp Asp Gly Asn Pro Glu Arg Tyr Asp
Ala Ser Ile Leu Leu Trp Lys Leu Gln Phe Asp Asp Asn Gly Thr
                                                         120
                 110
Tyr Thr Cys Gln Val Lys Asn Pro Pro Asp Val Asp Gly Val Ile
                 125
                                     130
Gly Glu Ile Arg Leu Ser Val Val His Thr Val Arg Phe Ser Glu
Ile His Phe Leu Ala Leu Ala Ile Gly Ser Ala Cys Ala Leu Met
                                                         165
Ile Ile Ile Val Ile Val Val Leu Phe Gln His Tyr Arg Lys
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Lys Arg Trp Ala Glu Arg Ala His Lys Val Val Glu Ile Lys Ser
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<211> 25

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<211> 90
<212> PRT
<213> Homo sapiens
<400> 394
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 Tyr Pro Ala Thr Gly Pro Ala Asp Asp Glu Ala Pro Asp Ala Glu
 Thr Thr Ala Ala Ala Thr Thr Ala Thr Thr Ala Ala Pro Thr Thr
 Ala Thr Thr Ala Ala Ser Thr Thr Ala Arg Lys Asp Ile Pro Val
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<210> 398
<211> 907
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<211> 120

<212> PRT

<213> Homo sapiens

<400> 399

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Trp Ser Leu Leu Ala Glu Arg Val Ser Trp Val Arg Asp Ala Glu 20 25 30

Asp Ala His Arg Leu Gln Pro Phe Val Thr Glu Arg Thr Leu Gly 35 40 45

Lys Val Gln Arg Trp Ser Gly Val His Thr Gln Thr Gly Gly Arg
50 55 60

Ala Gly Gly Gln Phe Cys Cys Ala Trp Leu Asp Ser Lys Arg
65 70 75

Val Leu Ala Ser Pro Gly Trp Gly Ala Ala Asn Ser Ile Lys Asn 80 85 90

Gln Arg Val Trp Ala Pro Ala Thr Glu Ser Ser Ala Gln Leu Leu 95 100 105

Cys Cys Trp Pro Val Gly Val Ala Arg Gly Gly Ala Leu Cys Gln
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<210> 400

<211> 893

<212> DNA

<213> Homo sapiens

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<210> 401

<211> 198

<212> PRT

<213> Homo sapiens

<400> 401 Met Pro Val Pro Ala Leu Cys Leu Leu Trp Ala Leu Ala Met Val Thr Arg Pro Ala Ser Ala Ala Pro Met Gly Gly Pro Glu Leu Ala 25 20 Gln His Glu Glu Leu Thr Leu Leu Phe His Gly Thr Leu Gln Leu Gly Gln Ala Leu Asn Gly Val Tyr Arg Thr Thr Glu Gly Arg Leu Thr Lys Ala Arg Asn Ser Leu Gly Leu Tyr Gly Arg Thr Ile Glu Leu Leu Gly Gln Glu Val Ser Arg Gly Arg Asp Ala Ala Gln Glu Leu Arg Ala Ser Leu Leu Glu Thr Gln Met Glu Glu Asp Ile Leu 105 Gln Leu Gln Ala Glu Ala Thr Ala Glu Val Leu Gly Glu Val Ala 110 Gln Ala Gln Lys Val Leu Arg Asp Ser Val Gln Arg Leu Glu Val 135 Gln Leu Arg Ser Ala Trp Leu Gly Pro Ala Tyr Arg Glu Phe Glu 145 Val Leu Lys Ala His Ala Asp Lys Gln Ser His Ile Leu Trp Ala 155 Leu Thr Gly His Val Gln Arg Gln Arg Glu Met Val Ala Gln 175 Gln His Arg Leu Arg Gln Ile Gln Glu Arg Leu His Thr Ala Ala

Leu Pro Ala

<210> 402 <211> 1915 <212> DNA <213> Homo sapiens

<400> 402 ggcaacatgg ctcagcaggc ttgccccaga gccatggcaa agaatggact 50 tgtaatttgc atcctggtga tcaccttact cctggaccag accaccagcc 100 acacatccag attaaaagcc aggaagcaca gcaaacgtcg agtgagagac 150 aaggatggag atctgaagac tcaaattgaa aagctctgga cagaagtcaa 200 tgccttgaag gaaattcaag ccctgcagac agtctgtctc cgaggcacta 250 aagttcacaa gaaatgctac cttgcttcag aaggtttgaa gcatttccat 300 gaggccaatg aagactgcat ttccaaagga ggaatcctgg ttatccccag 350 gaactccgac gaaatcaacg ccctccaaga ctatggtaaa aggagcctgc 400 caggtgtcaa tgacttttgg ctgggcatca atgacatggt cacggaaggc 450 aagtttgttg acgtcaacgg aatcgctatc tccttcctca actgggaccg 500 tgcacagcct aacggtggca agcgagaaaa ctgtgtcctg ttctcccaat 550 cagctcaggg caagtggagt gatgaggcct gtcgcagcag caagagatac 600 atatgcgagt tcaccatccc taaataggtc tttctccaat gtgtcctcca 650 agcaagattc atcataactt ataggttcat gatctctaag atcaagtaaa 700 aatcataatt tttacttatt aaaaaattgc aacacaagat caatgtccat 750 agcaatatga tagcatcagc caattttgct aacacatttc tttgggattt 800 tgcccttcct ggggtatagg ggatcagaaa tattgatcca tgtgcacgca 850 gataaaatgg cttctgctaa acagactaaa atctttctct ctagtctttc 900 tcacttgtac aaacccagtt tgttttcaaa aaatcacagt agcaatgcaa 950 ctcatcactc tagaaaagca agcttaggct acctgaaaga ttttcccttg 1000 gaagtttagc gtatgtttga ctaacaaaaa ttccctacat cagagactct 1050 aggtgctata taatccaaaa acttttcagc ctgttgctca ttctgtccca 1100 tgctggcaat aataccttgt cagcccatta cccttatttt gaattgctcc 1150 atctcctggt gggacttgta tcttgtctgc catatcagaa cacaaacccc 1200 tgaagaggtt ctgatttgat ttttttttt tcttcatgcc tacccttttt 1250 ttggaagttt ccagccgcaa tttgaaatga aatgacaagg tgtatatttg 1300

atcaatttte atteccacea ttgcattaca acctetaact taaatgggta 1350 accetaagge atatcaaaga agcagattge atgataaacg gaaatagaaa 1400 aaaagaacct acatttatt tgctttagca tccttactet cacctttat 1450 gagattgaga gtggacttac attecettt ttacatttee gtatattat 1500 ttttttage catcattata tgtttaagte tattatggge aaccaatctt 1550 tggaagetga aaactgaatt taaagaatge tatettggaa aattgcatac 1600 gtctgtgcaa tttttatte tgcttaatat caaattacaa agtttagact 1700 tggagggaaa tgggetttt agaagcaace aattttaaaa atatttgtt 1750 cttcaaataa atagtgtta aacattgaat gtgttttgtg aacaatatec 1800 cactttgcaa actttaacta cacatgettg gaattaagtt ttagetgtt 1850 tcattgctca ataataaage ctgaattetg atcaataaa aaaaaaaaa aaaaaaaaa aaaaa 1915

<210> 403

<211> 206

<212> PRT

<213> Homo sapiens

<400> 403

Met Ala Gln Gln Ala Cys Pro Arg Ala Met Ala Lys Asn Gly Leu 1 5 10 15

Val Ile Cys Ile Leu Val Ile Thr Leu Leu Leu Asp Gln Thr Thr 20 25 30

Ser His Thr Ser Arg Leu Lys Ala Arg Lys His Ser Lys Arg Arg 35 40 45

Val Arg Asp Lys Asp Gly Asp Leu Lys Thr Gln Ile Glu Lys Leu 50 55

Trp Thr Glu Val Asn Ala Leu Lys Glu Ile Gln Ala Leu Gln Thr
65 70 75

Val Cys Leu Arg Gly Thr Lys Val His Lys Lys Cys Tyr Leu Ala 80 85 90

Ser Glu Gly Leu Lys His Phe His Glu Ala Asn Glu Asp Cys Ile 95 100 105

Ser Lys Gly Gly Ile Leu Val Ile Pro Arg Asn Ser Asp Glu Ile 110 115 120

Asn Ala Leu Gln Asp Tyr Gly Lys Arg Ser Leu Pro Gly Val Asn 125 130 135

Asp Phe Trp Leu Gly Ile Asn Asp Met Val Thr Glu Gly Lys Phe 140 145 150

Val Asp Val Asn Gly Ile Ala Ile Ser Phe Leu Asn Trp Asp Arg

165 155 160 Ala Gln Pro Asn Gly Gly Lys Arg Glu Asn Cys Val Leu Phe Ser Gln Ser Ala Gln Gly Lys Trp Ser Asp Glu Ala Cys Arg Ser Ser 195 Lys Arg Tyr Ile Cys Glu Phe Thr Ile Pro Lys 200 205 <210> 404 <211> 25 <212> DNA <213> Artificial Sequence <220> <223> Synthetic oligonucleotide probe <400> 404 cctggttatc cccaggaact ccgac 25 <210> 405 <211> 23 <212> DNA <213> Artificial Sequence <220> <223> Synthetic oligonucleotide probe <400> 405 ctcttgctgc tgcgacaggc ctc 23 <210> 406 <211> 46 <212> DNA <213> Artificial Sequence <220> <223> Synthetic oligonucleotide probe <400> 406 cgccctccaa gactatggta aaaggagcct gccaggtgtc aatgac 46 <210> 407 <211> 570 <212> DNA <213> Homo sapiens <400> 407 gcgaggaccg ggtataagaa gcctcgtggc cttgcccggg cagccgcagg 50 ttccccgcgc gccccgagcc cccgcgccat gaagctcgcc gccctcctgg 100 ggctctgcgt ggccctgtcc tgcagctccg ctgctgcttt cttagtgggc 150 tcggccaagc ctgtggccca gcctgtcgct gcgctggagt cggcggcgga 200 ggccggggcc gggaccctgg ccaaccccct cggcaccctc aacccgctga 250 agetectget gageageetg ggeateceeg tgaaceacet catagaggge 300 ·

tcccagaagt gtgtggctga gctgggtccc caggccgtgg gggccgtgaa 350

ggccctgaag gccctgctgg gggccctgac agtgtttggc tgagccgaga 400 ctggagcatc tacacctgag gacaagacgc tgcccacccg cgagggctga 450 aaaccccgcc gcggggagga ccgtccatcc ccttcccccg gcccctctca 500 ataaacgtgg ttaagagcaa aaaaaaaaa aaaaaaaaa 550

<210> 408

<211> 104

<212> PRT

<213> Homo sapiens

<400> 408

Met Lys Leu Ala Ala Leu Leu Gly Leu Cys Val Ala Leu Ser Cys 1 5 10

Ser Ser Ala Ala Ala Phe Leu Val Gly Ser Ala Lys Pro Val Ala $20 \\ \hspace{1.5cm} 25 \\ \hspace{1.5cm} 30$

Gln Pro Val Ala Ala Leu Glu Ser Ala Ala Glu Ala Gly Ala Gly 35 40 45

Thr Leu Ala Asn Pro Leu Gly Thr Leu Asn Pro Leu Lys Leu Leu 50 55 60

Leu Ser Ser Leu Gly Ile Pro Val Asn His Leu Ile Glu Gly Ser
65 70 75

Gln Lys Cys Val Ala Glu Leu Gly Pro Gln Ala Val Gly Ala Val 80 85 90

Lys Ala Leu Lys Ala Leu Leu Gly Ala Leu Thr Val Phe Gly 95 100

<210> 409

<211> 2089

<212> DNA

<213> Homo sapiens

<400> 409
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aagggaggca ctccttggcc tccgcagccg atcacatgaa ggtggtgcca 100
agtctcctgc tctccgtcct cctggcacag gtgtggctgg tacccggctt 150
ggcccccagt cctcagtcgc cagagacccc agcccctcag aaccagacca 200
gcagggtagt gcaggctccc agggaggaag aggaagatga gcaggaggcc 250
agcgaggaga aggccggtga ggaagagaaa gcctggctga tggccagcag 300
gcagcagctt gccaaggaga cttcaaactt cggattcagc ctgctgcaa 350
agatctccat gaggcacgat ggcaacatgg tcttctctcc atttggcat 400
tccttggcca tgacaggctc acttgcagc cctgaagccc accaagcccg 500
ccagatcaag agaggctcc acttgcagc cctgaagccc accaagcccg 500

ggctcctgcc ttccctcttt aagggactca gagagaccct ctcccgcaac 550 ctggaactgg gcctctcaca ggggagtttt gccttcatcc acaaggattt 600 tgatgtcaaa gagactttct tcaatttatc caagaggtat tttgatacag 650 agtgcgtgcc tatgaatttt cgcaatgcct cacaggccaa aaggctcatg 700 aatcattaca ttaacaaaga gactcggggg aaaattccca aactgtttga 750 tgagattaat cctgaaacca aattaattct tgtggattac atcttgttca 800 aagggaaatg gttgacccca tttgaccctg tcttcaccga agtcgacact 850 ttccacctgg acaagtacaa gaccattaag gtgcccatga tgtacggtgc 900 aggcaagttt gcctccacct ttgacaagaa ttttcgttgt catgtcctca 950 aactgcccta ccaaggaaat gccaccatgc tggtggtcct catggagaaa 1000 atgggtgacc acctcgccct tgaagactac ctgaccacag acttggtgga 1050 gacatggctc agaaacatga aaaccagaaa catggaagtt ttctttccga 1100 agttcaagct agatcagaag tatgagatgc atgagctgct taggcagatg 1150 ggaatcagaa gaatcttctc accctttgct gaccttagtg aactctcagc 1200 tactggaaga aatctccaag tatccagggt tttacgaaga acagtgattg 1250 aagttgatga aaggggcact gaggcagtgg caggaatctt gtcagaaatt 1300 catgatctat gaagaaacct ctggaatgct tctgtttctg ggcagggtgg 1400 tgaatccgac tctcctataa ttcaggacat gcataagcac ttcgtgctgt 1450 agtagatgct gaatctgagg tatcaaacac acacaggata ccagcaatgg 1500 atggcagggg agagtgttcc ttttgttctt aactagttta gggtgttctc 1550 aaataaatac agtagtcccc acttatctga gggggataca ttcaaagacc 1600 cccagcagat gcctgaaacg gtggacagtg ctgaacctta tatatatttt 1650 ttcctacaca tacataccta tgataaagtt taatttataa attaggcaca 1700 gtaagagatt aacaataata acaacattaa gtaaaatgag ttacttgaac 1750 gcaagcactg caataccata acagtcaaac tgattataga gaaggctact 1800 aagtgactca tgggcgagga gcatagacag tgtggagaca ttgggcaagg 1850 ggagaattca catcctgggt gggacagagc aggacgatgc aagattccat 1900 cccactactc agaatggcat gctgcttaag acttttagat tgtttatttc 1950 tggaattttt catttaatgt ttttggacca tggttgacca tggttaactg 2000 agactgcaga aagcaaaacc atggataagg gaggactact acaaaagcat 2050 taaattgata catattttt aaaaaaaaaa aaaaaaaaa 2089

<210> 410 <211> 444 <212> PRT <213> Homo sapiens

<400> 410 Met Lys Val Val Pro Ser Leu Leu Ser Val Leu Leu Ala Gln Val Trp Leu Val Pro Gly Leu Ala Pro Ser Pro Gln Ser Pro Glu Thr Pro Ala Pro Gln Asn Gln Thr Ser Arg Val Val Gln Ala Pro Arg Glu Glu Glu Asp Glu Gln Glu Ala Ser Glu Glu Lys Ala Gly Glu Glu Lys Ala Trp Leu Met Ala Ser Arg Gln Gln Leu Ala Lys Glu Thr Ser Asn Phe Gly Phe Ser Leu Leu Arg Lys Ile Ser Met Arg His Asp Gly Asn Met Val Phe Ser Pro Phe Gly Met Ser Leu Ala Met Thr Gly Leu Met Leu Gly Ala Thr Gly Pro Thr 120 Glu Thr Gln Ile Lys Arg Gly Leu His Leu Gln Ala Leu Lys Pro 125 130 Thr Lys Pro Gly Leu Leu Pro Ser Leu Phe Lys Gly Leu Arg Glu 150 145 Thr Leu Ser Arg Asn Leu Glu Leu Gly Leu Ser Gln Gly Ser Phe Ala Phe Ile His Lys Asp Phe Asp Val Lys Glu Thr Phe Phe Asn 170 Leu Ser Lys Arg Tyr Phe Asp Thr Glu Cys Val Pro Met Asn Phe 190 Arg Asn Ala Ser Gln Ala Lys Arg Leu Met Asn His Tyr Ile Asn 205 Lys Glu Thr Arg Gly Lys Ile Pro Lys Leu Phe Asp Glu Ile Asn 215 Pro Glu Thr Lys Leu Ile Leu Val Asp Tyr Ile Leu Phe Lys Gly 230 Lys Trp Leu Thr Pro Phe Asp Pro Val Phe Thr Glu Val Asp Thr 255 250 Phe His Leu Asp Lys Tyr Lys Thr Ile Lys Val Pro Met Met Tyr Gly Ala Gly Lys Phe Ala Ser Thr Phe Asp Lys Asn Phe Arg Cys

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His Val Leu Lys Leu Pro Tyr Gln Gly Asn Ala Thr Met Leu Val
Val Leu Met Glu Lys Met Gly Asp His Leu Ala Leu Glu Asp Tyr
Leu Thr Thr Asp Leu Val Glu Thr Trp Leu Arg Asn Met Lys Thr
                                                         330
                320
Arg Asn Met Glu Val Phe Phe Pro Lys Phe Lys Leu Asp Gln Lys
Tyr Glu Met His Glu Leu Leu Arg Gln Met Gly Ile Arg Arg Ile
                                                         360
                350
Phe Ser Pro Phe Ala Asp Leu Ser Glu Leu Ser Ala Thr Gly Arg
Asn Leu Gln Val Ser Arg Val Leu Arg Arg Thr Val Ile Glu Val
                                                         390
                380
Asp Glu Arg Gly Thr Glu Ala Val Ala Gly Ile Leu Ser Glu Ile
                395
                                     400
Thr Ala Tyr Ser Met Pro Pro Val Ile Lys Val Asp Arg Pro Phe
His Phe Met Ile Tyr Glu Glu Thr Ser Gly Met Leu Leu Phe Leu
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Gly Arg Val Val Asn Pro Thr Leu Leu
                440
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<210> 411

<211> 636

<212> DNA

<213> Homo sapiens

<400> 411
ctgggatcag ccactgcagc tccctgagca ctctctacag agacgcggac 50

cccagacatg aggaggctcc tcctggtcac cagcctggtg gttgtgctgc 100

tgtgggaggc aggtgcagtc ccagcacca aggtccctat caagatgcaa 150

gtcaaacact ggccctcaga gcaggaccca gagaaggcct ggggcgcccg 200

tgtggtggag cctccggaga aggacgacca gctggtggtg ctgttccctg 250

tccagaagcc gaaactcttg accaccgagg agaaggcacg aggtcagggc 300

aggggcccca tccttccagg caccaaggcc tggatggaa ccgaggacac 350

cctgggccgt gtcctgagtc ccgagcccga ccatgacagc ctgtaccacc 400

ctccgcctga ggaggaccag ggcgaggaga ggccccggtt gtgggtgatg 450

ccaaatcacc aggtgctcct gggaccggag gaagaccaag accacatcta 500

ccacccccag tagggctca ggaccatca ctgccccgc cctgtcccaa 550

ggcccaggct gttgggactg ggaccctccc taccctgccc cagctagaca 600

aataaacccc agcaggcaaa aaaaaaaaaa aaaaaa 636

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<210> 412
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<211> 151

<212> PRT

<213> Homo sapiens

<400> 412

Met Arg Arg Leu Leu Leu Val Thr Ser Leu Val Val Val Leu Leu 1 10 15

Trp Glu Ala Gly Ala Val Pro Ala Pro Lys Val Pro Ile Lys Met $20 \hspace{1.5cm} 25 \hspace{1.5cm} 30$

Gln Val Lys His Trp Pro Ser Glu Gln Asp Pro Glu Lys Ala Trp 35 40 45

Gly Ala Arg Val Val Glu Pro Pro Glu Lys Asp Asp Gln Leu Val
50 55 60

Val Leu Phe Pro Val Gln Lys Pro Lys Leu Leu Thr Thr Glu Glu 65 70 75

Lys Pro Arg Gly Gln Gly Arg Gly Pro Ile Leu Pro Gly Thr Lys 80 85 90

Ala Trp Met Glu Thr Glu Asp Thr Leu Gly Arg Val Leu Ser Pro 95 100 105

Glu Pro Asp His Asp Ser Leu Tyr His Pro Pro Pro Glu Glu Asp
110 115

Gln Gly Glu Glu Arg Pro Arg Leu Trp Val Met Pro Asn His Gln 125 130 135

Val Leu Gly Pro Glu Glu Asp Gln Asp His Ile Tyr His Pro 140 145 150

Gln

<210> 413

<211> 1176

<212> DNA

<213> Homo sapiens

<400> 413

agaaagctgc actetgttga getecaggge geagtggagg gagggagtga 50 aggagetete tgtacceaag gaaagtgeag etgagaetea gacaagatta 100 caatgaacea acteagette etgetgtte teatagegae eaceagagga 150 tggagtacag atgaggetaa tacttactte aaggaatgga ectgttette 200 gtetecatet etgeceagaa getgeaagga aateaaagae gaatgteeta 250 gtgeatttga tggeetgtat ttteteegea etgagaatgg tgttatetae 300 cagaeettet gtgacatgae etetggggt ggeggetgga ecetggtgge 350 cagegtgeat gagaatgaea tgegtggaa gtgeaeggt ggegateget 400

ggtccagtca gcagggcagc aaagcagact acccagaggg ggacggcaac 450 tgggccaact acaacacctt tggatctgca gaggcggcca cgagcgatga 500 ctacaagaac cctggctact acgacatcca ggccaaggac ctgggcatct 550 ggcacgtgcc caataagtcc cccatgcagc actggagaaa cagctccctg 600 ctgaggtacc gcacggacac tggcttcctc cagacactgg gacataatct 650 gtttggcatc taccagaaat atccagtgaa atatggagaa ggaaagtgtt 700 ggactgacaa cggcccggtg atccctgtgg tctatgattt tggcgacgcc 750 cagaaaacag catcttatta ctcaccctat ggccagcggg aattcactgc 800 gggatttgtt cagttcaggg tatttaataa cgagagagca gccaacgcct 850 tgtgtgctgg aatgagggtc accggatgta acactgagca tcactgcatt 900 ggtggaggag gatactttcc agaggccagt ccccagcagt gtggagattt 950 ttctggtttt gattggagtg gatatggaac tcatgttggt tacagcagca 1000 gccgtgagat aactgaggca gctgtgcttc tattctatcg ttgagagttt 1050 tgtgggaggg aacccagacc tctcctccca accatgagat cccaaggatg 1100 gagaacaact tacccagtag ctagaatgtt aatggcagaa gagaaaacaa 1150 taaatcatat tgactcaaga aaaaaa 1176

<210> 414

<211> 313

<212> PRT

<213> Homo sapiens

<400> 414

Met Asn Gln Leu Ser Phe Leu Leu Phe Leu Ile Ala Thr Thr Arg 1 5 10 15

Gly Trp Ser Thr Asp Glu Ala Asn Thr Tyr Phe Lys Glu Trp Thr 20 25 30

Cys Ser Ser Ser Pro Ser Leu Pro Arg Ser Cys Lys Glu Ile Lys 35 40 45

Asp Glu Cys Pro Ser Ala Phe Asp Gly Leu Tyr Phe Leu Arg Thr 50 55 60

Glu Asn Gly Val Ile Tyr Gln Thr Phe Cys Asp Met Thr Ser Gly
65 70 75

Gly Gly Gly Trp Thr Leu Val Ala Ser Val His Glu Asn Asp Met 80 85 90

Arg Gly Lys Cys Thr Val Gly Asp Arg Trp Ser Ser Gln Gln Gly 95 100 105

Ser Lys Ala Asp Tyr Pro Glu Gly Asp Gly Asn Trp Ala Asn Tyr 110 115 120

Asn Thr Phe Gly Ser Ala Glu Ala Ala Thr Ser Asp Asp Tyr Lys

				125					130					135
Asn	Pro	Gly	Tyr	Tyr 140	Asp	Ile	Gln	Ala	Lys 145	Asp	Leu	Gly	Ile	Trp 150
His	Val	Pro	Asn	Lys 155	Ser	Pro	Met	Gln	His 160	Trp	Arg	Asn	Ser	Ser 165
Leu	Leu	Arg	Tyr	Arg 170	Thr	Asp	Thr	Gly	Phe 175	Leu	Gln	Thr	Leu	Gly 180
His	Asn	Leu	Phe	Gly 185	Ile	Tyr	Gln	Lys	Tyr 190	Pro	Val	Lys	Tyr	Gly 195
Glu	Gly	Lys	Суз	Trp 200	Thr	Asp	Asn	Gly	Pro 205	Val	Ile	Pro	Val	Val 210
Tyr	Asp	Phe	Gly	Asp 215	Ala	Gln	Lys	Thr	Ala 220	Ser	Tyr	Tyr	Ser	Pro 225
Tyr	Gly	Gln	Arg	Glu 230	Phe	Thr	Ala	Gly	Phe 235	Val	Gln	Phe	Arg	Val 240
Phe	Asn	Asn	Glu	Arg 245	Ala	Ala	Asn	Ala	Leu 250	Cys	Ala	Gly	Met	Arg 255
Val	Thr	Gly	Cys	Asn 260	Thr	Glu	His	His	Cys 265	Ile	Gly	Gly	Gly	Gly 270
Tyr	Phe	Pro	Glu	Ala 275	Ser	Pro	Gln	Gln	Cys 280	Gly	Asp	Phe	Ser	Gly 285
Phe	Asp	Trp	Ser	Gly 290	Tyr	Gly	Thr	His	Val 295	Gly	Tyr	Ser	Ser	Ser 300
Arg	Glu	Ile	Thr	Glu 305	Ala	Ala	Val	Leu	Leu 310	Phe	Tyr	Arg		

<210> 415

<211> 1281

<212> DNA

<213> Homo sapiens

<400> 415
gcggagccgg cgccggctgc gcagaggagc cgctctcgcc gccgccacct 50

cggctgggag cccacgaggc tgccgcatcc tgccctcgga acaatgggac 100

tcggcgcgc aggtgcttgg gccgcgctgc tcctgggaac gctgcaggtg 150

ctagcgctgc tgggggccgc ccatgaaagc gcagccatgg cggcatctgc 200

aaacatagag aattctgggc ttccacacaa ctccagtgct aactcaacag 250

agactctcca acatgtgcct tctgaccata caaatgaaac ttccaacagt 300

actgtgaaac caccaacttc agttgcctca gactccagta atacaacggt 350

caccaccatg aaacctacag cggcatctaa tacaacaaca ccagggatgg 400

tctcaacaaa tatgacttct accaccttaa agtctacacc caaaacaaca 450

agtgtttcac agaacacatc tcagatatca acatccacaa tgaccgtaac 500

ccacaatagt tcagtgacat ctgctgcttc atcagtaaca atcacaacaa 550 ctatgcattc tgaagcaaag aaaggatcaa aatttgatac tgggagcttt 600 gttggtggta ttgtattaac gctgggagtt ttatctattc tttacattgg 650 atgcaaaatg tattactcaa gaagaggcat tcggtatcga accatagatg 700 aacatgatgc catcatttaa ggaaatccat ggaccaagga tggaatacag 750 attgatgctg ccctatcaat taattttggt ttattaatag tttaaaacaa 800 tattctcttt ttgaaaatag tataaacagg ccatgcatat aatgtacagt 850 gtattacgta aatatgtaaa gattcttcaa ggtaacaagg gtttgggttt 900 tgaaataaac atctggatct tatagaccgt tcatacaatg gttttagcaa 950 gttcatagta agacaaacaa gtcctatctt ttttttttgg ctggggtggg 1000 ggcattggtc acatatgacc agtaattgaa agacgtcatc actgaaagac 1050 agaatgccat ctgggcatac aaataagaag tttgtcacag cactcaggat 1100 tttgggtatc ttttgtagct cacataaaga acttcagtgc ttttcagagc 1150 tggatatatc ttaattacta atgccacaca gaaattatac aatcaaacta 1200 gatctgaagc ataatttaag aaaaacatca acattttttg tgctttaaac 1250 tgtagtagtt ggtctagaaa caaaatactc c 1281

<210> 416

<211> 208

<212> PRT

<213> Homo sapiens

<400> 416

Met Gly Leu Gly Ala Arg Gly Ala Trp Ala Ala Leu Leu Gly 1 5 10 15

Thr Leu Gln Val Leu Ala Leu Leu Gly Ala Ala His Glu Ser Ala 20 25 30

Ala Met Ala Ala Ser Ala Asn Ile Glu Asn Ser Gly Leu Pro His
35 40 45

Asn Ser Ser Ala Asn Ser Thr Glu Thr Leu Gln His Val Pro Ser 50 55 60

Asp His Thr Asn Glu Thr Ser Asn Ser Thr Val Lys Pro Pro Thr 65 70 75

Ser Val Ala Ser Asp Ser Ser Asn Thr Thr Val Thr Thr Met Lys 80 85 90

Pro Thr Ala Ala Ser Asn Thr Thr Thr Pro Gly Met Val Ser Thr 95 100 105

Asn Met Thr Ser Thr Thr Leu Lys Ser Thr Pro Lys Thr Thr Ser 110 115 120

Val Ser Gln Asn Thr Ser Gln Ile Ser Thr Ser Thr Met Thr Val

			125					130					135
Thr Hi	s Asn	Ser	Ser 140	Val	Thr	Ser	Ala	Ala 145	Ser	Ser	Val	Thr	Ile 150
Thr Th	r Thr	Met	His 155	Ser	Glu	Ala	Lys	Lys 160	Gly	Ser	Lys	Phe	Asp 165
Thr Gl	y Ser	Phe	Val 170	Gly	Gly	Ile	Val	Leu 175	Thr	Leu	Gly	Val	Leu 180
Ser Il	e Leu	Tyr	Ile 185	Gly	Суѕ	Lys	Met	Tyr 190	Tyr	Ser	Arg	Arg	Gly 195
Ile Ar	g Tyr	Arg	Thr 200	Ile	Asp	Glu	His	Asp 205	Ala	Ile	Ile		

<210> 417 <211> 1728 <212> DNA

<213> Homo sapiens

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<211> 198

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<213> Homo sapiens

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10Leu Gly Ser Leu Leu Leu
15Ser Leu Ser Cys
20Leu Ala Leu Ser Val Leu Leu Leu Leu Ala Gln Leu
20Ser Asp Ala Ala Lys
35Asn Phe Glu Asp Val Arg Cys Lys Cys Ile
40Cys Pro Pro Tyr Lys
50Glu Asn Ser Gly His
55Ile Tyr Asn Lys Asn
60Ile Ser Gln Lys
Pro Val Arg Gly Pro
80Asp Val Glu Ala Tyr
80Cys Leu Arg Cys Glu
85Cys Lys Tyr Glu Glu Arg Ser Ser Val Thr
105The Leu Ser Jle Leu Gly Leu Leu Leu Tyr Met Val
115Tyr Leu Thr Leu Val Glu Pro Ile Leu Lys Arg Arg Leu Phe Gly
125

His Ala Gln Leu Ile Gln Ser Asp Asp Ile Gly Asp His Gln 140 145 150

Pro Phe Ala Asn Ala His Asp Val Leu Ala Arg Ser Arg Ser Arg 155 160 165

Ala Asn Val Leu Asn Lys Val Glu Tyr Ala Gln Gln Arg Trp Lys 170 175 180

Leu Gln Val Gln Glu Gln Arg Lys Ser Val Phe Asp Arg His Val 185 190 195

Val Leu Ser

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aagaggtctg atggggcaga ttattccaat ctacggtttt gggattttt 350
tatatatact gtacattcta tttaaggtaa gtagaatcat cctaatcata 400
ttacatcaat gaaaatctaa tatggcgata aaaatcattg tctacattaa 450
aacttcttat agttcataaa attattcaa atccatcatc tctttaaaatc 500
ctgcctcctc ttcatgaggt acttaggata gccattattt cagtttcaca 550
taagaatgtt tactcaatgt ttaagtgttt tgccccaaaa ttcacaacta 600
acaaggcaga actaggactt gaacatggat cttttggttc ttaatccagt 650

<210> 420

<211> 128

<212> PRT

<213> Homo sapiens

gagtgataca attcaatgca ctcccctgcc a 681

<400> 420

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Val Leu Ala Leu Ser Leu Leu Leu Pro Lys Ala Phe Leu Ser Arg 20 25 30

Gly Lys Arg Gln Glu Pro Pro Pro Thr Pro Glu Gly Lys Leu Gly 35 40 45

Arg Phe Pro Pro Met Met His His His Gln Ala Pro Ser Asp Gly 60 Gln Thr Pro Gly Ala Arg Phe Gln Arg Ser His Leu Ala Glu Ala 75 Phe Ala Lys Ala Lys Gly Ser Gly Gly Gly 85 Ala Gly Gly Gly 90 Ser Gly Arg Gly Leu Met Gly Gln Ile Ile Pro Ile Tyr Gly Phe 105 Gly Ile Phe Leu Tyr Ile Leu Tyr Ile Leu Phe Lys Val Ser Arg 120 Ile Ile Leu Ile Leu His Gln

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teagategga acaacteact tgaaaaaaaag teaggtgggg gaatgeeaaa 1250
aacacageaa geettttgag aagaatggag agteeettea teteageage 1300
ggtggagact eteteetgtg tgtgteetgg geeactetae cagtgatte 1350
agacteeege teteceaget gteeteetgt eteattgtt ggteaataca 1400
ctgaagatgg agaatttgga geetggeaga gagactggae agetetggag 1450
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acactggeee tgggaaceag getgagetga gtggeeteaa acceeegtt 1550
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<211> 394

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 Asn Asp Leu Asn Val Ser Pro Pro Glu Leu 25

 Thr Val His Val Gly Asp Ser Ala Leu Met Gly Cys Val Phe Gln 45

 Ser Thr Glu Asp Lys Cys Ile Phe Lys Ile Asp Trp Thr Leu Ser 50

 Pro Gly Glu His Ala Lys Asp Glu Tyr Val Leu Tyr Tyr Tyr Ser 75

 Asn Leu Ser Val Pro 80
 Ile Gly Arg Phe Gln Asn Arg Val His Leu 90

 Met Gly Asp Ile Leu 95
 Cys Asn Asp Gly Ser Leu Leu Leu Gln Asp 105

 Val Gln Glu Ala Asp 110
 Gln Gly Thr Tyr Ile Cys Glu Ile Arg Leu 120

 Lys Gly Glu Ser Gln Val Phe Lys Lys Ala Val Val Leu His Val 135

 Leu Pro Glu Glu Glu Pro 140
 Lys Glu Leu Met Val His Val Gly Gly Leu 150

Ile Gln Met Gly Cys Val Phe Gln Ser Thr Glu Val Lys His Val

160 165 155 Thr Lys Val Glu Trp Ile Phe Ser Gly Arg Arg Ala Lys Glu Glu Ile Val Phe Arg Tyr Tyr His Lys Leu Arg Met Ser Val Glu Tyr 190 Ser Gln Ser Trp Gly His Phe Gln Asn Arg Val Asn Leu Val Gly 200 Asp Ile Phe Arg Asn Asp Gly Ser Ile Met Leu Gln Gly Val Arg Glu Ser Asp Gly Gly Asn Tyr Thr Cys Ser Ile His Leu Gly Asn 240 235 Leu Val Phe Lys Lys Thr Ile Val Leu His Val Ser Pro Glu Glu Pro Arg Thr Leu Val Thr Pro Ala Ala Leu Arg Pro Leu Val Leu 260 Gly Gly Asn Gln Leu Val Ile Ile Val Gly Ile Val Cys Ala Thr Ile Leu Leu Pro Val Leu Ile Leu Ile Val Lys Lys Thr Cys Gly Asn Lys Ser Ser Val Asn Ser Thr Val Leu Val Lys Asn Thr 315 305 Lys Lys Thr Asn Pro Glu Ile Lys Glu Lys Pro Cys His Phe Glu Arg Cys Glu Gly Glu Lys His Ile Tyr Ser Pro Ile Ile Val Arg 335 Glu Val Ile Glu Glu Glu Pro Ser Glu Lys Ser Glu Ala Thr 350 Tyr Met Thr Met His Pro Val Trp Pro Ser Leu Arg Ser Asp Arg Asn Asn Ser Leu Glu Lys Lys Ser Gly Gly Gly Met Pro Lys Thr 390 385 Gln Gln Ala Phe

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<210> 424

<211> 229

<212> PRT

<213> Homo sapiens

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Arg Val Met Ala Leu Ile Leu Leu Ile Leu Cys Val Gly Met Val

Val Gly Leu Val Ala Leu Gly Ile Trp Ser Val Met Gln Arg Asn 50 55 60

Tyr Leu Gln Asp Glu Asn Glu Asn Arg Thr Gly Thr Leu Gln Gln 65 70 75

Leu Ala Lys Arg Phe Cys Gln Tyr Val Val Lys Gln Ser Glu Leu 80 85 90

Lys Gly Thr Phe Lys Gly His Lys Cys Ser Pro Cys Asp Thr Asn 95 100

Trp Arg Tyr Tyr Gly Asp Ser Cys Tyr Gly Phe Phe Arg His Asn 110 115

Leu Thr Trp Glu Glu Ser Lys Gln Tyr Cys Thr Asp Met Asn Ala

				125					130					135
Thr	Leu	Leu	Lys	Ile 140	Asp	Asn	Arg	Asn	Ile 145	Val	Glu	Tyr	Ile	Lys 150
Ala	Arg	Thr	His	Leu 155	Ile	Arg	Trp	Val	Gly 160	Leu	Ser	Arg	Gln	Lys 165
Ser	Asn	Glu	Val	Trp 170	Lys	Trp	Glu	Asp	Gly 175	Ser	Val	Ile	Ser	Glu 180
Asn	Met	Phe	Glu	Phe 185	Leu	Glu	Asp	Gly	Lys 190	Gly	Asn	Met	Asn	Cys 195
Ala	Tyr	Phe	His	Asn 200	Gly	Lys	Met	His	Pro 205	Thr	Phe	Cys	Glu	Asn 210
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<211> 245

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Lys Gly Asn His Val Lys Lys Asn Lys Pro Ala Ala His Phe Leu

Pro Lys Pro Leu Lys Val Ala Met Tyr Lys Glu Pro Ser Leu His

Asp Leu Thr Glu Phe Ser Arg Ser Gly Ser Gly Thr Pro Thr Lys

190

215 220 225

Ser Arg Ser Val Ser Gly Val Leu Asn Gly Gly Lys Ser Met Ser 230 235 240

His Asn Glu Ser Thr 245

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<212> DNA

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<211> 225

<212> PRT

<213> Homo Sapien

<400> 497

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Cys Pro Arg Gly Thr Lys Ser Leu Cys Gln Lys Gln Leu Leu Ile 35 40 45

Leu Leu Ser Lys Val Arg Leu Cys Gly Gly Arg Pro Ala Arg Pro 50 55 60

Asp Arg Gly Pro Glu Pro Gln Leu Lys Gly Ile Val Thr Lys Leu 65 70 75

Phe Cys Arg Gln Gly Phe Tyr Leu Gln Ala Asn Pro Asp Gly Ser 80 85 90

Ile Gln Gly Thr Pro Glu Asp Thr Ser Ser Phe Thr His Phe Asn 95 100 105

Leu Ile Pro Val Gly Leu Arg Val Val Thr Ile Gln Ser Ala Lys 110 115 120

Leu Gly His Tyr Met Ala Met Asn Ala Glu Gly Leu Leu Tyr Ser 125 130 135

Ser Pro His Phe Thr Ala Glu Cys Arg Phe Lys Glu Cys Val Phe 140 145 150

Glu Asn Tyr Tyr Val Leu Tyr Ala Ser Ala Leu Tyr Arg Gln Arg 155 160 165

Arg Ser Gly Arg Ala Trp Tyr Leu Gly Leu Asp Lys Glu Gly Gln

Val Met Lys Gly Asn Arg Val Lys Lys Thr Lys Ala Ala Ala His 185 190 195

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Leu His Ser Val Pro Glu Ala Ser Pro Ser Ser Pro Pro Ala Pro 215 220 225

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<211> 744

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<210> 499

<211> 247

<212> PRT

<213> Homo Sapien

<400> 499

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Ser Ser Pro Ser Lys Asn Arg Gly Leu Cys Asn Gly Asn Leu Val 35 40 45

Asp Ile Phe Ser Lys Val Arg Ile Phe Gly Leu Lys Lys Arg Arg 50

Leu Arg Arg Gln Asp Pro Gln Leu Lys Gly Ile Val Thr Arg Leu
65 70 75

Tyr Cys Arg Gln Gly Tyr Tyr Leu Gln Met His Pro Asp Gly Ala 80 85 90

Leu Asp Gly Thr Lys Asp Asp Ser Thr Asn Ser Thr Leu Phe Asn 95 100 105

Leu Ile Pro Val Gly Leu Arg Val Val Ala Ile Gln Gly Val Lys 110 115 120

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Thr Gly Leu Tyr 125 Ala Met Asn Gly Glu Gly Tyr Leu Tyr 135

Ser Glu Leu Phe 140 Pro Glu Cys Lys Phe 145 Leu Tyr Arg Gln Glu Asn Tyr Tyr Val 155 Ile Tyr Ser Ser Met 160 Pro Asn Lys Glu Gly 165

Glu Ser Gly Arg Ala Trp Phe Leu Gly Leu Tyr Arg Glu Gln 180

Ala Met Lys Gly Asn 185 Pro Leu Glu Val Ala Met 190 Pro Ala Ala His 195

Phe Leu Pro Lys Pro Leu Glu Val Ala Met 205 Pro Gly Val Thr Pro 210

Leu His Asp Val Gly Glu Thr Val Pro Lys Pro Gly Val Thr Pro 225

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Val Asn Lys Ser Lys Thr Thr
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<211> 2906

<212> DNA

<213> Homo Sapien

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<210> 501

<211> 640

<212> PRT

<213> Homo Sapien

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Tyr	Ala	Phe	Asn	Arg 170	Ile	Pro	Ser	Leu	Arg 175	Arg	Leu	Asp	Leu	Gly 180
Glu	Leu	Lys	Arg		Ser	Tyr	Ile	Ser	Glu 190	Gly	Ala	Phe	Glu	Gly 195
Leu	Ser	Asn	Leu	Arg 200	Tyr	Leu	Asn	Leu	Ala 205	Met	Cys	Asn	Leu	Arg 210
Glu	Ile	Pro	Asn	Leu 215	Thr	Pro	Leu	Ile	Lys 220	Leu	Asp	Glu	Leu	Asp 225
Leu	Ser	Gly	Asn	His 230	Leu	Ser	Ala	Ile	Arg 235	Pro	Gly	Ser	Phe	Gln 240
Gly	Leu	Met	His	Leu 245	Gln	Lys	Leu	Trp	Met 250	Ile	Gln	Ser	Gln	Ile 255
Gln	Val	Ile	Glu	Arg 260	Asn	Ala	Phe	Asp	Asn 265	Leu	Gln	Ser	Leu	Val 270
Glu	Ile	Asn	Leu	Ala 275	His	Asn	Asn	Leu	Thr 280	Leu	Leu	Pro	His	Asp 285
Leu	Phe	Thr	Pro	Leu 290	His	His	Leu	Glu	Arg 295	Ile	His	Leu	His	His 300
Asn	Pro	Trp	Asn	Cys 305	Asn	Cys	Asp	Ile	Leu 310	Trp	Leu	Ser	Trp	Trp 315
Ile	Lys	Asp	Met	Ala 320	Pro	Ser	Asn	Thr	Ala 325	Cys	Cys	Ala	Arg	Cys 330
Asn	Thr	Pro	Pro	Asn 335	Leu	Lys	Gly	Arg	Tyr 340	Ile	Gly	Glu	Leu	Asp 345
Gln	Asn	Tyr	Phe	Thr 350	Cys	Tyr	Ala	Pro	Val 355	Ile	Val	Glu	Pro	Pro 360
Ala	Asp	Leu	Asn	Val 365	Thr	Glu	Gly	Met	Ala 370	Ala	Glu	Leu	Lys	Cys 375
Arg	Ala	Ser	Thr	Ser 380	Leu	Thr	Ser	Val	Ser 385	Trp	Ile	Thr	Pro	Asn 390
Gly	Thr	Val	Met	Thr 395	His	Gly	Ala	Tyr	Lys 400	Val	Arg	Ile	Ala	Val 405
Leu	Ser	Asp	Gly	Thr 410	Leu	Asn	Phe	Thr	Asn 415		Thr	Val	Gln	Asp 420
Thr	Gly	Met	Tyr	Thr 425		Met	Val	Ser	Asn 430		Val	Gly	Asn	Thr 435
Thr	Ala	Ser	Ala	Thr 440		Asn	Val	Thr	Ala 445		Thr	Thr	Thr	Pro 450
Phe	Ser	Tyr	Phe	Ser 455		Val	Thr	Val	Glu 460		Met	Glu	Pro	Ser 465
Gln	Asp	Glu	Ala	Arg 470		Thr	Asp	Asn	Asn 475		Gly	Pro	Thr	Pro 480

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Asp Ile Asn Ser Gly Ile Pro Gly Ile Asp Glu Val Met Lys Thr
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Thr Lys Ile Ile Gly Cys Phe Val Ala Ile Thr Leu Met Ala
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Ala Val Met Leu Val Ile Phe Tyr Lys Met Arg Lys Gln His His
Arg Gln Asn His His Ala Pro Thr Arg Thr Val Glu Ile Ile Asn
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Val Asp Asp Glu Ile Thr Gly Asp Thr Pro Met Glu Ser His Leu
                                     580
Pro Met Pro Ala Ile Glu His Glu His Leu Asn His Tyr Asn Ser
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Tyr Lys Ser Pro Phe Asn His Thr Thr Thr Val Asn Thr Ile Asn
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Ser Ile His Ser Ser Val His Glu Pro Leu Leu Ile Arg Met Asn
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Ser Lys Asp Asn Val Gln Glu Thr Gln Ile
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<210> 502

<211> 2458

<212> DNA

<213> Homo Sapien

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ageaactgag eggggaageg eeegegteeg gggateggga tgteeeteet 200

cetteteete ttgetagttt eetactatgt tggaacettg gggaeteaea 250

ctgagateaa gagagtgea gaggaaaagg teaetttgee etgeeaeea 300

caactgggge tteeagaaaa agacactetg gatattgaat ggetgeteae 350

cgataatgaa gggaaceaaa aagtggtgat eaettaetee agtegteatg 400

tetacaataa ettgaetgag gaacagaagg geegagtgge etttgettee 450

aattteetgg eaggagatge eteettgeag attgaacete tgaageeeag 500

tgatgaggge eggtaeaeet gtaaggttaa gaatteaggg egetaeegtgt 550

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<211> 373

<212> PRT

<213> Homo Sapien <400> 503 Met Ser Leu Leu Leu Leu Leu Leu Val Ser Tyr Tyr Val Gly Thr Leu Gly Thr His Thr Glu Ile Lys Arg Val Ala Glu Glu Lys Val Thr Leu Pro Cys His His Gln Leu Gly Leu Pro Glu Lys Asp Thr Leu Asp Ile Glu Trp Leu Leu Thr Asp Asn Glu Gly Asn Gln 55 Lys Val Val Ile Thr Tyr Ser Ser Arg His Val Tyr Asn Asn Leu Thr Glu Glu Gln Lys Gly Arg Val Ala Phe Ala Ser Asn Phe Leu Ala Gly Asp Ala Ser Leu Gln Ile Glu Pro Leu Lys Pro Ser Asp 105 Glu Gly Arg Tyr Thr Cys Lys Val Lys Asn Ser Gly Arg Tyr Val Trp Ser His Val Ile Leu Lys Val Leu Val Arg Pro Ser Lys Pro 135 130 Lys Cys Glu Leu Glu Gly Glu Leu Thr Glu Gly Ser Asp Leu Thr 145 Leu Gln Cys Glu Ser Ser Ser Gly Thr Glu Pro Ile Val Tyr Tyr 165 155 Trp Gln Arg Ile Arg Glu Lys Glu Gly Glu Asp Glu Arg Leu Pro 175 Pro Lys Ser Arg Ile Asp Tyr Asn His Pro Gly Arg Val Leu Leu 195 190 185 Gln Asn Leu Thr Met Ser Tyr Ser Gly Leu Tyr Gln Cys Thr Ala Gly Asn Glu Ala Gly Lys Glu Ser Cys Val Val Arg Val Thr Val

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Gln Tyr Val Gln Ser Ile Gly Met Val Ala Gly Ala Val Thr Gly
Ile Val Ala Gly Ala Leu Leu Ile Phe Leu Leu Val Trp Leu Leu
                245
                                    250
Ile Arg Arg Lys Asp Lys Glu Arg Tyr Glu Glu Glu Glu Arg Pro
Asn Glu Ile Arg Glu Asp Ala Glu Ala Pro Lys Ala Arg Leu Val
Lys Pro Ser Ser Ser Ser Gly Ser Arg Ser Ser Arg Ser Gly
                290
                                                         300
                                    295
Ser Ser Ser Thr Arg Ser Thr Ala Asn Ser Ala Ser Arg Ser Gln
Arg Thr Leu Ser Thr Asp Ala Ala Pro Gln Pro Gly Leu Ala Thr
                320
Gln Ala Tyr Ser Leu Val Gly Pro Glu Val Arg Gly Ser Glu Pro
                335
                                    340
Lys Lys Val His His Ala Asn Leu Thr Lys Ala Glu Thr Thr Pro
Ser Met Ile Pro Ser Gln Ser Arg Ala Phe Gln Thr Val
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<210> 504

<211> 3060

<212> DNA

<213> Homo Sapien

<400> 504
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ctcctgtgcg gagtagtgga tttcgccaga agtttgagta tcactactcc 150
tgaagagatg attgaaaaag ccaaagggga aactgcctat ctgccatgca 200
aatttacgct tagtcccgaa gaccagggac cgctggacat cgagtggctg 250
atatcaccag ctgataatca gaaggtggat caagtgatta ttttatattc 300
tggagacaaa atttatgatg actactatcc agatctgaaa ggccgagtac 350
attttacgag taatgatct aaatctggtg atgcatcaat aaatgtaacg 400
aatttacaac tgtcagatat tggcacatat cagtgcaaag tgaaaaaagc 450
tcctggtgtt gcaaataaga agattcatct ggtagttctt gttaagcctt 500
caggtgcgag atgttacgtt gatggatctg aagaaattgg aagtgacttt 550
aagataaaat gtgaaccaaa agaaggttca cttccattac agtatgagtg 600
gcaaaaattg tctgactcac agaaaatgcc cacttcatgg ttagcagaaa 650
tgacttcatc tgttatatct gtaaaaaatg cctcttctga gtactctggg 700

acatacagct gtacagtcag aaacagagtg ggctctgatc agtgcctgtt 750 gcgtctaaac gttgtccctc cttcaaataa agctggacta attgcaggag 800 ccattatagg aactttgctt gctctagcgc tcattggtct tatcatcttt 850 tgctgtcgta aaaagcgcag agaagaaaaa tatgaaaagg aagttcatca 900 cgatatcagg gaagatgtgc cacctccaaa gagccgtacg tccactgcca 950 gaagctacat cggcagtaat cattcatccc tggggtccat gtctccttcc 1000 aacatggaag gatattccaa gactcagtat aaccaagtac caagtgaaga 1050 ctttgaacgc actcctcaga gtccgactct cccacctgct aagttcaagt 1100 accettacaa gactgatgga attacagttg tataaatatg gactactgaa 1150 gaatctgaag tattgtatta tttgacttta ttttaggcct ctagtaaaga 1200 cttaaatgtt ttttaaaaaa agcacaaggc acagagatta gagcagctgt 1250 aagaacacat ctactttatg caatggcatt agacatgtaa gtcagatgtc 1300 atgtcaaaat tagtacgagc caaattettt gttaaaaaac cetatgtata 1350 gtgacactga tagttaaaag atgttttatt atattttcaa taactaccac 1400 taacaaattt ttaacttttc atatgcatat tctgatatgt ggtcttttag 1450 gaaaagtatg gttaatagtt gatttttcaa aggaaatttt aaaattctta 1500 cgttctgttt aatgtttttg ctatttagtt aaatacattg aagggaaata 1550 cccgttcttt tcccctttta tgcacacaac agaaacacgc gttgtcatgc 1600 ctcaaactat tttttatttg caactacatg atttcacaca attctcttaa 1650 acaacgacat aaaatagatt toottgtata taaataactt acatacgctc 1700 cataaagtaa attctcaaag gtgctagaac aaatcgtcca cttctacagt 1750 gttctcgtat ccaacagagt tgatgcacaa tatataaata ctcaagtcca 1800 atattaaaaa cttaggcact tgactaactt taataaaatt tctcaaacta 1850 tatcaatatc taaagtgcat atatttttta agaaagatta ttctcaataa 1900 cttctataaa aataagtttg atggtttggc ccatctaact tcactactat 1950 tagtaagaac ttttaacttt taatgtgtag taaggtttat tctacctttt 2000 tctcaacatg acaccaacac aatcaaaaac gaagttagtg aggtgctaac 2050 atgtgaggat taatccagtg attccggtca caatgcattc caggaggagg 2100 tacccatgtc actggaattg ggcgatatgg tttattttt cttccctgat 2150 ttggataacc aaatggaaca ggaggaggat agtgattctg atggccattc 2200 cctcgataca ttcctggctt ttttctgggc aaagggtgcc acattggaag 2250 aggtggaaat ataagttctg aaatctgtag ggaagagaac acattaagtt 2300 aattcaaagg aaaaaatcat catctatgtt ccagatttct cattaaagac 2350 aaagttaccc acaacactga gatcacatct aagtgacact cctattgtca 2400 ggtctaaata cattaaaaac ctcatgtgta ataggcgtat aatgtataac 2450 aggtgaccaa tgttttctga atgcataaag aaatgaataa actcaaacac 2500 agtacttcct aaacaacttc aaccaaaaaa gaccaaaaca tggaacgaat 2550 ggaagettgt aaggacatge ttgttttagt ceagtggttt ceacagetgg 2600 ctaagccagg agtcacttgg aggcttttaa atacaaaaca ttggagctgg 2650 aggccattat ccttagcaaa ctaatgcaga aacagaaaat caactaccgc 2700 atgttctcac ttataagtgg gaggtaatga taagaactta tgaacacaaa 2750 gaaggaaaca atagacattg gagtctattt gagaggggag ggtgggagaa 2800 ggaaaaggag cagaaaagat aactattgag tactgccttc acacctgggt 2850 gatgaaataa tatgtacaac aaatccctgt gacacatgtt tacctatgga 2900 acaaaccttc atgtgtatcc ctaaacctaa aataaaagtt aaaaaaaaa 2950 aaaaaaaaa 3060

<210> 505

<211> 352

<212> PRT

<213> Homo Sapien

				125					130					135
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Ser	Glu	Glu	Ile	Gly 155	Ser	Asp	Phe	Lys	Ile 160	Lys	Cys	Glu	Pro	Lys 165
Glu	Gly	Ser	Leu	Pro 170	Leu	Gln	Tyr	Glu	Trp 175	Gln	Lys	Leu	Ser	Asp 180
Ser	Gln	Lys	Met	Pro 185	Thr	Ser	Trp	Leu	Ala 190	Glu	Met	Thr	Ser	Ser 195
Val	Ile	Ser	Val	Lys 200	Asn	Ala	Ser	Ser	Glu 205	Tyr	Ser	Gly	Thr	Tyr 210
Ser	Cys	Thr	Val	Arg 215	Asn	Arg	Val	Gly	Ser 220	Asp	Gln	Cys	Leu	Leu 225
Arg	Leu	Asn	Val	Val 230	Pro	Pro	Ser	Asn	Lys 235	Ala	Gly	Leu	Ile	Ala 240
Gly	Ala	Ile	Ile	Gly 245	Thr	Leu	Leu	Ala	Leu 250	Ala	Leu	Ile	Gly	Leu 255
Ile	Ile	Phe	Cys	Cys 260	Arg	Lys	Lys	Arg	Arg 265	Glu	Glu	Lys	Tyr	Glu 270
Lys	Glu	Val	His	His 275	Asp	Ile	Arg	Glu	Asp 280	Val	Pro	Pro	Pro	Lys 285
Ser	Arg	Thr	Ser	Thr 290	Ala	Arg	Ser	Tyr	Ile 295	Gly	Ser	Asn	His	Ser 300
Ser	Leu	Gly	Ser	Met 305	Ser	Pro	Ser	Asn	Met 310	Glu	Gly	Tyr	Ser	Lys 315
Thr	Gln	Tyr	Asn	Gln 320	Val	Pro	Ser	Glu	Asp 325	Phe	Glu	Arg	Thr	Pro 330
Gln	Ser	Pro	Thr	Leu 335	Pro	Pro	Ala	Lys	Phe 340	Lys	Tyr	Pro	Tyr	Lys 345
Thr	Asp	Gly	Ile	Thr 350	Val	Val								

<210> 506

<211> 1705

<212> DNA

<213> Homo Sapien

<400> 506

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ccagctgcct ccaggcagcc agccctcaag catcacttac aggaccagag 150
ggacaagaca tgactgtgat gaggagctgc tttcgccaat ttaacaccaa 200
gaagaattga ggctgcttgg gaggaaggcc aggaggaaca cgagactgag 250

agatgaattt tcaacagagg ctgcaaagcc tgtggacttt agccagaccc 300 ttctgccctc ctttgctggc gacagcctct caaatgcaga tggttgtgct 350 cccttgcctg ggttttaccc tgcttctctg gagccaggta tcaggggccc 400 agggccaaga attccacttt gggccctgcc aagtgaaggg ggttgttccc 450 cagaaactgt gggaagcett ctgggctgtg aaagacacta tgcaagctca 500 ggataacatc acgagtgccc ggctgctgca gcaggaggtt ctgcagaacg 550 tctcggatgc tgagagctgt taccttgtcc acaccctgct ggagttctac 600 ttgaaaactg ttttcaaaaa ccaccacaat agaacagttg aagtcaggac 650 tctgaagtca ttctctactc tggccaacaa ctttgttctc atcgtgtcac 700 aactgcaacc cagtcaagaa aatgagatgt tttccatcag agacagtgca 750 cacaggeggt ttetgetatt eeggagagea tteaaacagt tggaegtaga 800 agcagetetg accaaageee ttggggaagt ggacattett etgacetgga 850 tgcagaaatt ctacaagctc tgaatgtcta gaccaggacc tccctccccc 900 tggcactggt ttgttccctg tgtcatttca aacagtctcc cttcctatgc 950 tgttcactgg acacttcacg cccttggcca tgggtcccat tcttggccca 1000 ggattattgt caaagaagtc attctttaag cagcgccagt gacagtcagg 1050 gaaggtgcct ctggatgctg tgaagagtct acagagaaga ttcttgtatt 1100 tattacaact ctatttaatt aatgtcagta tttcaactga agttctattt 1150 atttgtgaga ctgtaagtta catgaaggca gcagaatatt gtgccccatg 1200 cttctttacc cctcacaatc cttgccacag tgtggggcag tggatgggtg 1250 cttagtaagt acttaataaa ctgtggtgct ttttttggcc tgtctttgga 1300 ttgttaaaaa acagagaggg atgcttggat gtaaaactga acttcagagc 1350 atgaaaatca cactgtcttc tgatatctgc agggacagag cattggggtg 1400 ggggtaaggt gcatctgttt gaaaagtaaa cgataaaatg tggattaaag 1450 tegecagete acceeateat ecettteeet tggtgeeete ettttttt 1550 tatectagte attetteect aatetteeac ttgagtgtea agetgaeett 1600 gctgatggtg acattgcacc tggatgtact atccaatctg tgatgacatt 1650 ccctgctaat aaaagacaac ataactccaa aaaaaaaaa aaaaaaaaa 1700 aaaaa 1705

<210> 507

<211> 206

<212> PRT

<213> Homo Sapien

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<400> 507
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Pro Phe Cys Pro Pro Leu Leu Ala Thr Ala Ser Gln Met Gln Met
Val Val Leu Pro Cys Leu Gly Phe Thr Leu Leu Leu Trp Ser Gln
 Val Ser Gly Ala Gln Gly Gln Glu Phe His Phe Gly Pro Cys Gln
 Val Lys Gly Val Val Pro Gln Lys Leu Trp Glu Ala Phe Trp Ala
 Val Lys Asp Thr Met Gln Ala Gln Asp Asn Ile Thr Ser Ala Arg
 Leu Leu Gln Gln Glu Val Leu Gln Asn Val Ser Asp Ala Glu Ser
 Cys Tyr Leu Val His Thr Leu Leu Glu Phe Tyr Leu Lys Thr Val
 Phe Lys Asn His His Asn Arg Thr Val Glu Val Arg Thr Leu Lys
                                                          135
                 125
 Ser Phe Ser Thr Leu Ala Asn Asn Phe Val Leu Ile Val Ser Gln
                 140
 Leu Gln Pro Ser Gln Glu Asn Glu Met Phe Ser Ile Arg Asp Ser
                 155
 Ala His Arg Arg Phe Leu Leu Phe Arg Arg Ala Phe Lys Gln Leu
                 170
                                      175
 Asp Val Glu Ala Ala Leu Thr Lys Ala Leu Gly Glu Val Asp Ile
                 185
 Leu Leu Thr Trp Met Gln Lys Phe Tyr Lys Leu
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<210> 508

<211> 924

<212> DNA

<213> Homo Sapien

<400> 508

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tcaaggatca tcaggagcca aaccccaaaa tcttgagaaa aatcagcagc 350 attgccaact ctttcctcta catgcagaaa actctgcggc aatgtcagga 400 acagaggcag tgtcactgca ggcaggaagc caccaatgcc accagagtca 450 tccatgacaa ctatgatcag ctggaggtcc acgctgctgc cattaaatcc 500 ctgggaggagc tcgacgtct tctagcctgg attaataaga atcatgaagt 550 aatgttctca gcttgatgac aaggaacctg tatagtgatc cagggatgaa 600 cacccctgt geggtttact gtgggagaca gcccaccttg aaggggaagg 650 agatggggaa ggccccttgc agctgaaagt cccactggct ggcctcaggc 700 tgtcttattc cgcttgaaaa taggcaaaaa gtctactgtg gtatttgtaa 750 taaactctat ctgctgaaag ggcctgcagg ccatcctgg agtaaagggc 800 tgcctccca tctaattat tgtaaagtca tatagtcat gtctgtgatg 900 ataaattcca tattttacct atga 924

<210> 509

<211> 177

<212> PRT

<213> Homo Sapien

<400> 509

Met Lys Leu Gln Cys Val Ser Leu Trp Leu Leu Gly Thr Ile Leu 1 5 10 15

Ile Leu Cys Ser Val Asp Asn His Gly Leu Arg Arg Cys Leu Ile 20 25 30

Ser Thr Asp Met His His Ile Glu Glu Ser Phe Gln Glu Ile Lys 35 40 45

Arg Ala Ile Gln Ala Lys Asp Thr Phe Pro Asn Val Thr Ile Leu 50 55 60

Ser Thr Leu Glu Thr Leu Gln Ile Ile Lys Pro Leu Asp Val Cys
65 70 75

Cys Val Thr Lys Asn Leu Leu Ala Phe Tyr Val Asp Arg Val Phe 80 85 90

Lys Asp His Gln Glu Pro Asn Pro Lys Ile Leu Arg Lys Ile Ser 95 100 105

Ser Ile Ala Asn Ser Phe Leu Tyr Met Gln Lys Thr Leu Arg Gln 110 115 120

Cys Gln Glu Gln Arg Gln Cys His Cys Arg Gln Glu Ala Thr Asn 125 130 135

Ala Thr Arg Val Ile His Asp Asn Tyr Asp Gln Leu Glu Val His 140 145

Ala Ala Ala Ile Lys Ser Leu Gly Glu Leu Asp Val Phe Leu Ala

<210> 510

<211> 996

<212> DNA

<213> Homo Sapien

<400> 510

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cacatacgat ttaggtgaca ctatagaata acatccactt tgcctttctc 150

tccacaggtg tccactccca ggtccaactg cacctcggtt ctatcgataa 200

tctcagcacc agccactcag agcagggcac gatgttgggg gcccgcctca 250

ggctctgggt ctgtgccttg tgcagcgtct gcagcatgag cgtcctcaga 300

gcctatccca atgcctcccc actgctcggc tccagctggg gtggcctgat 350

ccacctgtac acagccacag ccaggaacag ctaccacctg cagatccaca 400

agaatggcca tgtggatggc gcaccccatc agaccatcta cagtgccctg 450

atgatcagat cagaggatgc tggctttgtg gtgattacag gtgtgatgag 500

cagaagatac ctctgcatgg atttcagagg caacattttt ggatcacact 550 atttcgaccc ggagaactgc aggttccaac accagacgct ggaaaacggg 600

tacgacgtct accactctcc tcagtatcac ttcctggtca gtctgggccg 650

ggcgaagaga gccttcctgc caggcatgaa cccacccccg tactcccagt 700

tectgteeeg gaggaaegag atececetaa tteaetteaa caeeeceata 750

ccacggcggc acacccggag cgccgaggac gactcggagc gggaccccct 800

gaacgtgctg aagccccggg cccggatgac cccggccccg gcctcctgtt 850

cacaggaget ecegagegee gaggacaaca geeegatgge eagtgaceea 900

ttaggggtgg tcaggggcgg tcgagtgaac acgcacgctg ggggaacggg 950

cccggaaggc tgccgccct tcgccaagtt catctagggt cgctgg 996

<210> 511

<211> 251

<212> PRT

<213> Homo Sapien

<400> 511

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Val Cys Ser Met Ser Val Leu Arg Ala Tyr Pro Asn Ala Ser Pro 30 20

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Leu Leu Gly Ser Ser Trp Gly Gly Leu Ile His Leu Tyr Thr Ala
Thr Ala Arg Asn Ser Tyr His Leu Gln Ile His Lys Asn Gly His
Val Asp Gly Ala Pro His Gln Thr Ile Tyr Ser Ala Leu Met Ile
Arg Ser Glu Asp Ala Gly Phe Val Val Ile Thr Gly Val Met Ser
Arg Arg Tyr Leu Cys Met Asp Phe Arg Gly Asn Ile Phe Gly Ser
                                    100
His Tyr Phe Asp Pro Glu Asn Cys Arg Phe Gln His Gln Thr Leu
Glu Asn Gly Tyr Asp Val Tyr His Ser Pro Gln Tyr His Phe Leu
                                                         135
Val Ser Leu Gly Arg Ala Lys Arg Ala Phe Leu Pro Gly Met Asn
Pro Pro Pro Tyr Ser Gln Phe Leu Ser Arg Arg Asn Glu Ile Pro
Leu Ile His Phe Asn Thr Pro Ile Pro Arg Arg His Thr Arg Ser
                                                         180
                170
                                    175
Ala Glu Asp Asp Ser Glu Arg Asp Pro Leu Asn Val Leu Lys Pro
                                    190
                185
Arg Ala Arg Met Thr Pro Ala Pro Ala Ser Cys Ser Gln Glu Leu
                                                         210
                                    205
                200
Pro Ser Ala Glu Asp Asn Ser Pro Met Ala Ser Asp Pro Leu Gly
                                                         225
                215
Val Val Arg Gly Gly Arg Val Asn Thr His Ala Gly Gly Thr Gly
Pro Glu Gly Cys Arg Pro Phe Ala Lys Phe Ile
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<210> 512

<211> 2015

<212> DNA

<213> Homo Sapien

<400> 512

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ggggagccaa gagaatttcc cctgcaagag agaccaggag tttcacaaaa 350 acatctccca acttcatggt gctgatcgcc acctccgtgg agacatcagc 400 cgccagtggc agccccgagg gagctggaat gaccacagtt cagaccatca 450 caggcagtga tcccgaggaa gccatctttg acaccctttg caccgatgac 500 agctctgaag aggcaaagac actcacaatg gacatattga cattggctca 550 cacctccaca gaagctaagg gcctgtcctc agagagcagt gcctcttccg 600 acqqcccca tccaqtcatc acccqtcac qqqcctcaqa gagcagcgcc 650 tettecgacg geocecatee agteateace eegteacggg ceteagagag 700 caqcqcctct tccqacggcc cccatccagt catcaccccg tcatggtccc 750 cqqqatctga tgtcactctc ctcgctgaag ccctggtgac tgtcacaaac 800 atcgaggtta ttaattgcag catcacagaa atagaaacaa caacttccag 850 catccctggg gcctcagaca tagatctcat ccccacggaa ggggtgaagg 900 cctcqtccac ctccqatcca ccagctctqc ctgactccac tgaagcaaaa 950 ccacacatca ctgaggtcac agcctctgcc gagaccctgt ccacagccgg 1000 caccacagag tcagctgcac ctcatgccac ggttgggacc ccactcccca 1050 ctaacagcgc cacagaaaga gaagtgacag cacccggggc cacgaccctc 1100 agtggagete tggteacagt tagcaggaat eccetggaag aaaceteage 1150 cctctctgtt gagacaccaa gttacgtcaa agtctcagga gcagctccgg 1200 tctccataga ggctgggtca gcagtgggca aaacaacttc ctttgctggg 1250 agetetgett cetectacag ecceteggaa geegeeetea agaactteae 1300 cccttcagag acaccgacca tggacatcgc aaccaagggg cccttcccca 1350 ccagcaggga ccctcttcct tctgtccctc cgactacaac caacagcagc 1400 cgagggacga acagcacctt agccaagatc acaacctcag cgaagaccac 1450 qatqaageee caacageeae geecacgaet geeeggaega ggeegaeeae 1500 agacqtqagt gcaggtgaaa atggaggttt cctcctcctg cggctgagtg 1550 tggcttcccc ggaagacctc actgacccca gagtggcaga aaggctgatg 1600 cagcagetee accgggaact ceaegeeeae gegeeteaet teeaggtete 1650 cttactgcgt gtcaggagag gctaacggac atcagctgca gccaggcatg 1700 tcccgtatgc caaaagaggg tgctgcccct agcctgggcc cccaccgaca 1750 gactgcagct gcgttactgt gctgagaggt acccagaagg ttcccatgaa 1800 gggcagcatg tccaagcccc taaccccaga tgtggcaaca ggaccctcgc 1850 tcacatccac cggagtgtat gtatggggag gggcttcacc tgttcccaga 1900 ggtgtccttg gactcacctt ggcacatgtt ctgtgtttca gtaaagagag 1950 acctgatcac ccatctgtgt gcttccatcc tgcattaaaa ttcactcagt 2000 gtggcccaaa aaaaa 2015

- <210> 513
- <211> 482
- <212> PRT
- <213> Homo Sapien
- <400> 513
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- Trp Glu Val Gly Val Ser Gly Ser Ser Ala Gly Pro Ser Thr Arg 20 25 30
- Arg Ala Asp Thr Ala Met Thr Thr Asp Asp Thr Glu Val Pro Ala 35 40 45
- Met Thr Leu Ala Pro Gly His Ala Ala Leu Glu Thr Gln Thr Leu 50 55 60
- Ser Ala Glu Thr Ser Ser Arg Ala Ser Thr Pro Ala Gly Pro Ile 65 70 75
- Pro Glu Ala Glu Thr Arg Gly Ala Lys Arg Ile Ser Pro Ala Arg 80 85 90
- Glu Thr Arg Ser Phe Thr Lys Thr Ser Pro Asn Phe Met Val Leu 95 100 105
- Ile Ala Thr Ser Val Glu Thr Ser Ala Ala Ser Gly Ser Pro Glu 110 115 120
- Gly Ala Gly Met Thr Thr Val Gln Thr Ile Thr Gly Ser Asp Pro 125 130 135
- Glu Glu Ala Ile Phe Asp Thr Leu Cys Thr Asp Asp Ser Ser Glu 140 145 150
- Glu Ala Lys Thr Leu Thr Met Asp Ile Leu Thr Leu Ala His Thr 155 160 165
- Ser Thr Glu Ala Lys Gly Leu Ser Ser Glu Ser Ser Ala Ser Ser 170 175 180
- Asp Gly Pro His Pro Val Ile Thr Pro Ser Arg Ala Ser Glu Ser 185 190
- Ser Ala Ser Ser Asp Gly Pro His Pro Val Ile Thr Pro Ser Arg 200 205 210
- Ala Ser Glu Ser Ser Ala Ser Ser Asp Gly Pro His Pro Val Ile 215 220 225
- Thr Pro Ser Trp Ser Pro Gly Ser Asp Val Thr Leu Leu Ala Glu 230 235 240
- Ala Leu Val Thr Val Thr Asn Ile Glu Val Ile Asn Cys Ser Ile 245 250 255

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Thr Glu Ile Glu Thr Thr Thr Ser Ser Ile Pro Gly Ala Ser Asp
Ile Asp Leu Ile Pro Thr Glu Gly Val Lys Ala Ser Ser Thr Ser
Asp Pro Pro Ala Leu Pro Asp Ser Thr Glu Ala Lys Pro His Ile
                                    295
Thr Glu Val Thr Ala Ser Ala Glu Thr Leu Ser Thr Ala Gly Thr
                                     310
Thr Glu Ser Ala Ala Pro His Ala Thr Val Gly Thr Pro Leu Pro
                                     325
Thr Asn Ser Ala Thr Glu Arg Glu Val Thr Ala Pro Gly Ala Thr
                335
Thr Leu Ser Gly Ala Leu Val Thr Val Ser Arg Asn Pro Leu Glu
                                                         360
                                     355
Glu Thr Ser Ala Leu Ser Val Glu Thr Pro Ser Tyr Val Lys Val
Ser Gly Ala Ala Pro Val Ser Ile Glu Ala Gly Ser Ala Val Gly
Lys Thr Thr Ser Phe Ala Gly Ser Ser Ala Ser Ser Tyr Ser Pro
                395
                                     400
Ser Glu Ala Ala Leu Lys Asn Phe Thr Pro Ser Glu Thr Pro Thr
                410
Met Asp Ile Ala Thr Lys Gly Pro Phe Pro Thr Ser Arg Asp Pro
                                                         435
                                     430
                425
Leu Pro Ser Val Pro Pro Thr Thr Thr Asn Ser Ser Arg Gly Thr
                                     445
Asn Ser Thr Leu Ala Lys Ile Thr Thr Ser Ala Lys Thr Thr Met
                455
Lys Pro Gln Gln Pro Arg Pro Arg Leu Pro Gly Arg Gly Arg Pro
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Gln Thr

<210> 514

<211> 2284

<212> DNA

<213> Homo Sapien

<400> 514
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ggcgccgggg tcctctcgac gccagagaga aatctcatca tctgtgcagc 150
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- <212> PRT
- <213> Homo Sapien
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- Ile Cys Phe Leu Thr Leu Arg Leu Ser Ala Ser Gln Asn Cys Leu 20 25 30
- Lys Lys Ser Leu Glu Asp Val Val Ile Asp Ile Gln Ser Ser Leu 35 40 45
- Ser Lys Gly Ile Arg Gly Asn Glu Pro Val Tyr Thr Ser Thr Gln 50 55 60
- Glu Asp Cys Ile Asn Ser Cys Cys Ser Thr Lys Asn Ile Ser Gly 65 70
- Asp Lys Ala Cys Asn Leu Met Ile Phe Asp Thr Arg Lys Thr Ala 80 85 90
- Arg Gln Pro Asn Cys Tyr Leu Phe Phe Cys Pro Asn Glu Glu Ala 95 100 105
- Cys Pro Leu Lys Pro Ala Lys Gly Leu Met Ser Tyr Arg Ile Ile 110 115 120
- Thr Asp Phe Pro Ser Leu Thr Arg Asn Leu Pro Ser Gln Glu Leu 125 130 135
- Pro Gln Glu Asp Ser Leu Leu His Gly Gln Phe Ser Gln Ala Val 140 145 150
- Thr Pro Leu Ala His His His Thr Asp Tyr Ser Lys Pro Thr Asp 155 160 165
- Ile Ser Trp Arg Asp Thr Leu Ser Gln Lys Phe Gly Ser Ser Asp 170 175
- His Leu Glu Lys Leu Phe Lys Met Asp Glu Ala Ser Ala Gln Leu 185 190 195

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Leu Ala Tyr Lys Glu Lys Gly His Ser Gln Ser Ser Gln Phe Ser
Ser Asp Gln Glu Ile Ala His Leu Leu Pro Glu Asn Val Ser Ala
Leu Pro Ala Thr Val Ala Val Ala Ser Pro His Thr Thr Ser Ala
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Thr Pro Lys Pro Ala Thr Leu Leu Pro Thr Asn Ala Ser Val Thr
Pro Ser Gly Thr Ser Gln Pro Gln Leu Ala Thr Thr Ala Pro Pro
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                260
Val Thr Thr Val Thr Ser Gln Pro Pro Thr Thr Leu Ile Ser Thr
                                                         285
Val Phe Thr Arg Ala Ala Ala Thr Leu Gln Ala Met Ala Thr Thr
                                    295
Ala Val Leu Thr Thr Thr Phe Gln Ala Pro Thr Asp Ser Lys Gly
                305
Ser Leu Glu Thr Ile Pro Phe Thr Glu Ile Ser Asn Leu Thr Leu
Asn Thr Gly Asn Val Tyr Asn Pro Thr Ala Leu Ser Met Ser Asn
                                                         345
Val Glu Ser Ser Thr Met Asn Lys Thr Ala Ser Trp Glu Gly Arg
                350
Glu Ala Ser Pro Gly Ser Ser Ser Gln Gly Ser Val Pro Glu Asn
                365
Gln Tyr Gly Leu Pro Phe Glu Lys Trp Leu Leu Ile Gly Ser Leu
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Leu Phe Gly Val Leu Phe Leu Val Ile Gly Leu Val Leu Leu Gly
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Asp Tyr Leu Ile Asn Gly Ile Tyr Val Asp Ile
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<222> 1869, 1887

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<212> PRT

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Asp Thr Val Ser Leu Gln Cys Thr Tyr Arg Glu Glu Leu Arg Asp 35 40 45

His Arg Lys Tyr Trp Cys Arg Lys Gly Gly Ile Leu Phe Ser Arg
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Trp Cys Gly Val Glu Lys Arg Gly Pro Asp Glu Ser Leu Leu Ile
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Ser Leu Phe Val Phe Pro Gly Pro Cys Cys Pro Pro Ser Pro Ser
                                     130
                 125
Pro Thr Phe Gln Pro Leu Ala Thr Thr Arg Leu Gln Pro Lys Ala
                                     145
Lys Ala Gln Gln Thr Gln Pro Pro Gly Leu Thr Ser Pro Gly Leu
Tyr Pro Ala Ala Thr Thr Ala Lys Gln Gly Lys Thr Gly Ala Glu
Ala Pro Pro Leu Pro Gly Thr Ser Gln Tyr Gly His Glu Arg Thr
Ser Gln Tyr Thr Gly Thr Ser Pro His Pro Ala Thr Ser Pro Pro
Ala Gly Ser Ser Arg Pro Pro Met Gln Leu Asp Ser Thr Ser Ala
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                                                          225
Glu Asp Thr Ser Pro Ala Leu Ser Ser Gly Ser Ser Lys Pro Arg
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Val Ser Ile Pro Met Val Arg Ile Leu Ala Pro Val Leu Val Leu
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Leu Ser Leu Leu Ser Ala Ala Gly Leu Ile Ala Phe Cys Ser His
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Leu Leu Leu Trp Arg Lys Glu Ala Gln Gln Ala Thr Glu Thr Gln
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Arg Asn Glu Lys Phe Trp Leu Ser Arg Leu Thr Ala Glu Glu Lys
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